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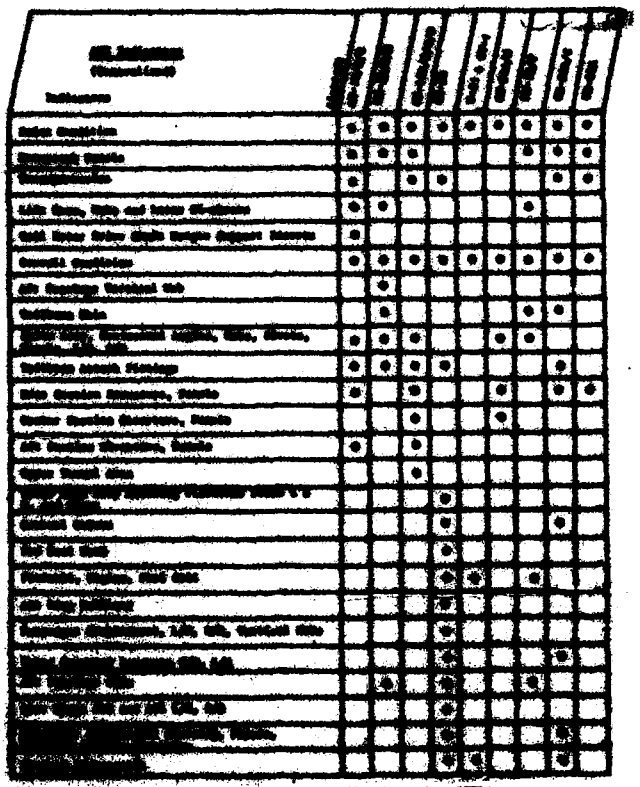
ACE/AACE INSPECTION AND ANALYSIS HANDBOOK

PART III - PROFILING



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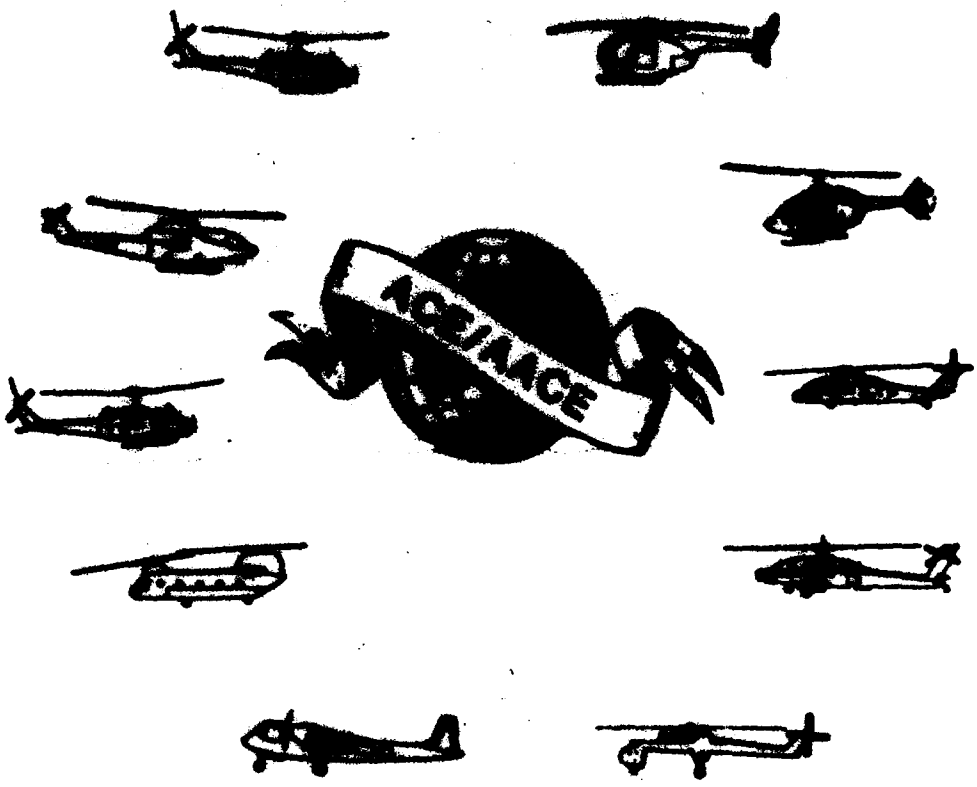

DEPOT ENGINEERING AND RCM SUPPORT OFFICE—
CORPUS CHRISTI, TEXAS

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This is the Airframe Condition Evaluation and Aircraft Analytical Corrosion Evaluation (ACE/AACE) inspection and analysis handbook which was prepared to provide U.S. Army Aviation Systems Command (AVSCOM) managers, commanders of operational units, engineers, team members, and others with a practical reference document of criteria, guidelines, and other information applicable to the ACE/AACE program. The handbook is in three parts: Part I-Management, Part II-Engineering, and Part III-Profiling.

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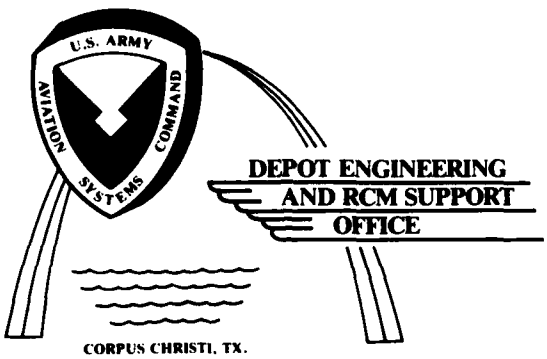

Prepared as a Special Task under the auspices of the
Nondestructive Testing Information Analysis Center
for

U.S. ARMY AVIATION SYSTEMS COMMAND

APRIL 1985

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1.0 INTRODUCTION TO PART III - PROFILING

The actual profiling of aircraft in the Airframe Condition Evaluation (ACE)/ Aircraft Analytical Corrosion Evaluation (AACE) program is performed by the ACE/AACE team. The team's objective is to acquire fielded aircraft information to provide a data base whereby management decisions regarding aircraft depot induction for programmed depot maintenance can be made. This part of the handbook provides guidelines and criteria for performing the tasks required of the ACE/ AACE team.

This part is designed to be compatible with the two other parts of this handbook. Part I delineates the various interrelated management aspects of reliability-centered maintenance, on-condition maintenance, and ACE/AACE. Part II delineates the various technical aspects involved in the planning and analysis of the ACE/ AACE program.

2.0 ACE PROFILING GUIDELINES

Profiling an aircraft in accordance with the airframe condition evaluation (ACE) procedure involves carefully examining the airframe structure for symptoms of possible hidden defects. Pre-selected indicators and condition codes form the basis for conducting the evaluation. The criteria for selecting airframe indicators are, in part, based upon providing simplicity of evaluation conduct. Therefore, the indicators are easily detected and readily accessible. The estimated times to complete an ACE profile for specific aircraft are presented in Table 2-1. The ACE procedure does *not* in any way apply to aircraft that experience damage from combat operations, crashes, or accidents.

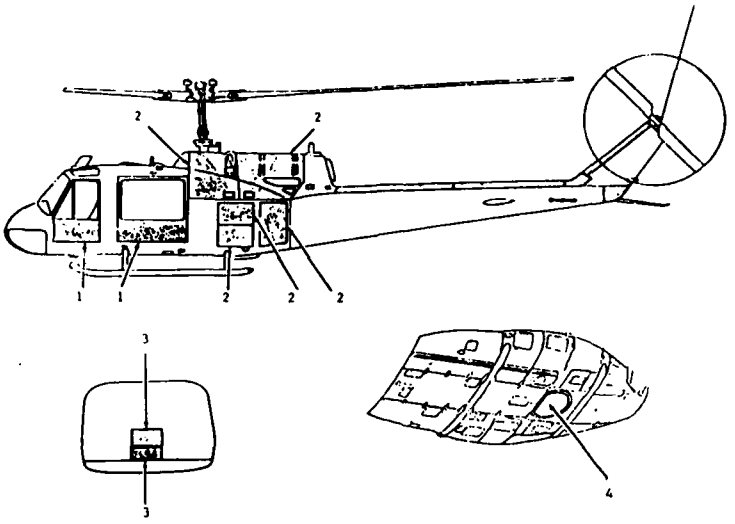
Table 2-1 Estimated ACE Examination Times

Aircraft Type	Time (hrs. min.)
OH-6	1:05
OH-58	1:05
U-21	1:00
OV-1	1:00
AH-1	2:05
UH-1	1:35
UH-60	2:45
CH-47	3:05
CH-54	2:30

Before evaluation of the airframe indicators, specified sections of the aircraft are exposed for viewing. All aircraft disassembly is performed by the operational unit, not the ACE/AACE team. The minimum desirable working team to be provided by the operational unit to aid in the evaluation is a unit technical inspector and the aircraft crew chief. For the evaluation, the unit technical inspector places the aircraft on a RED X. Upon evaluation completion, the aircraft is returned to an appropriate status. Figure 2-1 provides an example of an aircraft preparation for ACE.

The following equipment is possessed by each ACE profiler during aircraft evaluation:

- Two inspection mirrors.
- Two three cell flashlights and spare batteries.
- One honeycomb sounding tool.
- Any technical manuals, Army administrative publications (i.e. regulations), and administrative publications of the Command, if needed.



aft cabin bulkhead

1. Unlock all doors. (Item 1)
2. Open all cowling and access doors. (Item 2)
3. Open overhead circuit breaker in cockpit area.
4. Remove seats in cargo area if installed.
5. Remove sound proofing in cabin (aft bulkhead and center roof area).
6. Remove two (2) panels from center aft cabin bulkhead. (Item 3)
7. Remove cargo hook from hellhole area if installed. (Item 4)

Figure 2-1 UH-1 Preparation for ACE

Evaluation Conduct

The indicators and applicable condition codes selected for each aircraft are used to evaluate the basic airframe in an effort to detect general progressive deterioration of the airframe, regardless of cause (i.e., normal wear, overstressing, climatic conditions, etc.). The ACE/AACE team examines the aircraft in an orderly manner, thereby accomplishing the evaluation, and records the results using condition codes preestablished for each indicator. This is done in accordance with AVSCOM Pamphlet series 750-1, and the ACE worksheets provided therein, developed by the, Depot Engineering and RCM Support Office. Each pamphlet delineates, in a systematic order, the airframe indicators and applicable condition codes selected for profiling a specific type of aircraft.

The matrix presented in Table 2-2 provides a comparison of all current indicators for the various aircraft participating in the ACE program. These indicators are provided on the worksheets contained in the aircraft AVSCOM 750-1 Pamphlet series.

Table 2-2 Matrix of ACE Indicators

ACE Indicators (Generalized) / Indicators / Aircraft	AH-1G/Q/S	UH-1B/C/M	CH-47A/B/C/D	OH-6A	U-21 & OV-1	CH-54A/B	UH-1H/V	OH-58A/C	UH-60A
Paint Condition	●	●	●	●	●	●	●	●	●
Honeycomb Panels	●	●	●				●	●	●
Transparencies	●		●	●				●	●
Lift Beam, Webs and Loose Hi-shears	●	●					●		
Tail Rotor Drive Shaft Hanger Support Inserts	●								
Overall Condition	●	●	●	●	●	●	●	●	●
Aft Fuselage Vertical Web		●							
Tailboom Skin		●					●	●	
Pylon Assy, Horizontal Angles, Webs, Rivets, Panels, L/H, R/H	●	●	●			●	●		
Tailboom Attach Fittings	●	●	●	●				●	
Nose Section Structure, Panels	●		●			●		●	●
Center Section Structure, Panels			●			●			
Aft Section Structure, Panels	●		●						
Upper Tunnel Area			●						
Rotor Head Assy Mounting Platforms Beams L & R, and Floor				●					
Control Column				●				●	
Fwd Keel Beam				●					
Firewall, Engine, Fuel Cell				●	●		●		
Aft Ring Bulkhead				●					
Passenger Compartment, L/H, R/H, Vertical Webs				●					
Upper External Longeron R/H, L/H				●				●	
Aft Fuselage Skin		●		●			●		
Door Hinge Fwd and Aft L/H, R/H				●					
Passenger Compartment Flooring, Panels, Bulkhead Interior/Exterior				●				●	
Battery Compartment				●	●			●	

Table 2-2 Matrix of ACE Indicators (Cont'd)

ACE Indicators (Generalized) / Aircraft / Indicators	AH-1G/Q/S	UH-1B/C/M	CH-47A/B/C/D	OH-6A	U-21 & OV-1	CH-54A/B	UH-1H/V	OH-58A/C	UH-60A
Formers (Bulkheads)					●				
Main Spar Left, Right					●				
Fuselage to Spar Attach Straps					●				
Horizontal Stabilizer Attach Fittings					●				
Vertical Fin Attach Fittings					●				
Aft, Fwd Landing Gear Attach Fittings, R/H, L/H				●	●				●
Wing Attach Fittings					●				
Engine Mounts			●	●	●				●
Tail Cone Assy, Skin, Bulkheads						●			●
Fwd, Aft, and Main Hoist Attach Fittings						●			
Canted Bulkhead and Split Deck Assy							●		
Aft Fuselage Bulkhead Fitting, L/H, R/H							●		
Cabin Roof Beam								●	
Lower Fuselage Honeycomb, Interior, and Exterior								●	
Roof Honeycomb, Panel, Interior, and Exterior								●	
Fwd, Aft Transmission Support Brackets, L/H,R/H								●	●
Fwd, Aft Fuel Cell Bulkhead, Panels	●	●						●	
Aft Fuselage Upper Longerons, Webs				●				●	
Fwd, Aft Fuel Cell Honeycomb Shell, L/H, R/H		●					●	●	
Cockpit Floor Panels, Supports	●			●				●	
Aft Fuselage Lower Stringers FS								●	
Electrical Wiring, Coaxial Cable, Bundles	●	●		●			●	●	
Tailcone Structure, Exterior								●	
Nose Door and Cockpit Door Panels									●
Avionics/Electronics Compartment, Panels,Flooring	●								●
Fwd Cockpit, Door Frames, Posts, Tracks,L/H,R/H				●			●	●	●

Table 2-2 Matrix of ACE Indicators (Cont'd)

ACE Indicators (Generalized) / Aircraft → Indicators	AH-1G/Q/S	UH-1B/C/M	CH-47A/B/C/D	OH-6A	U-21 & OV-1	CH-54A/B	UH-1H/V	OH-58A/C	UH-60A
Fwd Landing Gear					●				●
Aft, Cargo Door Tracks, Posts, Frames, L/H, R/H		●					●	●	●
Fuselage Frames									●
Transmission Support Beams			●						●
Aft Fuselage Floor Panel									●
Cargo Hook Support Beam, Fittings									●
Fuselage Skins, Panels				●					●
Storage Compartment Floors									●
Transition Bulkheads			●						●
Aft, Cargo, Door Post, Interior and Exterior		●		●			●	●	
Ammo Compartment	●								
Structural Panel Forward of Stub Wing	●								
Canopy Striker Plates	●								
XM-28 Floor	●								
Hydraulic Compartment	●								
Deck Areas, Panels	●								
Transmission Compartment, Flooring	●								
Oil Cooler, Flooring, Panels	●								
Lower, Upper Aft Cabin Bulkhead, Panels, L/H, R/H		●							
Fuel Cell Outboard Panels, R/H, L/H		●					●		
Fifth Mount Attach Area		●							
Fuel Cell Inboard Panel, L/H, R/H Hellhole		●							
Corrosion, Flooring, Castings			●						
Fwd Upper, Lower Canted Frame							●		
Strut Center Beam Attach Fittings, L/H, R/H							●		
Mast Support Structure Fitting, Panels							●		

Table 2-2 Matrix of ACE Indicators (Cont'd)

ACE Indicators (Generalized) / Aircraft / Indicators	AH-1G/Q/S	UH-1B/C/M	CH-47A/B/C/D	OH-6A	U-21 & OV-1	CH-54A/B	UH-1H/V	OH-58A/C	UH-60A
Outboard Fuel Cell Bulkhead, L/H, R/H							●		
Fwd, Aft Main Beam, L/H, R/H							●		
Center Post Assy								●	
Cockpit Fuselage Shells, Interior/Exterior,L/H,R/H								●	
Passenger Seat Panels								●	
Transition Fuselage, Skin, Bulkheads									●
Roof Skin									●

The condition codes are used to identify the condition of the indicator being evaluated. They identify "what can go wrong" and/or "how bad it is." The selection of a condition code by the ACE/AACE team dictates the indicator weight (numerical value) used in formulating the aircraft profile index. However, the ACE/AACE team does not have knowledge as to what the current indicator weights are. Table 2-3 presents the condition codes with Table 2-4 delineating the criteria for condition code selection.

An example of an indicator is paint condition. Paint is normally the only protective cover available for an aircraft; it must therefore fully cover all outer surfaces of the aircraft except for the transparencies. The exterior paint performs two primary functions: (1) protect the outer surfaces from the corrosive effects of the weather and (2) camouflage the helicopter. Paint in good condition also performs the secondary function of adding eye appeal and giving the appearance of a well maintained aircraft. Based on the criteria shown for paint in Table 2-4, the ACE/AACE team determines the applicable condition code to be circled.

Table 2-3. ACE Condition Codes

A - Worn Excessively	M - Good
B - Buckled	N - Loose
C - Deteriorated	P - Bent
D - Corroded	Q - Minor
E - Cracked	R - No Defect
F - Misaligned	S - Delaminated
G - Loose Rivets	T - Improper Hardware
H - Major	U - Dent
I - Oxidized	X - Scratch
J - Punctured	Y - Temporary Repair
K - Poor	Z - Bolts in lieu of Rivets
L - Fair	

The evaluation proceeds in respect to the order of indicators on the applicable ACE worksheet(s) following a counterclockwise motion about the aircraft. The ACE/AACE team proceeds through the profile until an indicator deficiency is found. At this point, the applicable condition code is determined and circled on the worksheet. This process continues until the profile is completed.

Any safety-of-flight items that are discovered during the profile should be verbally brought to the attention of the unit technical inspector. In no case does the ACE/AACE team ground or suggest that an aircraft be grounded; this is a decision to be made by the unit technical inspector and/or maintenance officer.

Table 2-4 Condition Codes Criteria

INDICATOR NOMENCLATURE	CONDITION	ACE CODE	NEGLIGIBLE DEFECT	RECORDABLE DEFECT
BONDED PANELS	DELAMINATED	S	DELAMINATED AREA NO LARGER THAN TWO (2) SQ. INCHES IN SIZE X NO MORE THAN THREE DELAMINATED AREAS IN EACH POCKET.	DELAMINATED AREAS THAT EXCEED NEGLIGIBLE DEFECTS.
	DETERIORATE	C	NONE NOTE: CORE CORROSION WILL SOUND LIKE DELAMINATION WHEN TAPPING AND SPONGY TO THE TOUCH.	INTERNAL CORES CORRODED OR CONTAMINATED WITH WATER, OIL, FUEL, HYDRAULIC FLUID, ETC. IF REQUIRED, VERIFY CONTAMINATION BY DRILLING A .040 INCH HOLE AT BOTTOM OF SUSPECTED DETERIORATED AREA. IF CONTAMINATED, LIQUID WILL COME OUT THE HOLE.
	TEMPORARY REPAIR	Y	ADHESIVE BONDED OR SEALED PATCHES WHICH EXAMINE LIKE THE ORIGINAL PANEL ARE CONSIDERED PERMANENT REPAIRS AND SHALL NOT BE MARKED.	INJECTIONS OR FILLS, LARGER THAN 5/8 IN. IN DIAMETER. UNBONDED LAP PATCHES. DELAMINATED PATCHES. IMPROPER PATCH MATERIAL. REPAIRS OF POOR QUALITY OF WORKMANSHIP. MORE THAN ONE REPAIR PER POCKET.
	PUNCTURED	J	NONE	OPENING IN FACING OF PANEL (NORMALLY ROUND HOLE).
	CORRODED	D	CORROSION RESIDUE ON SURFACE THAT CAN BE REMOVED BY RUBBING WITH A CLOTH AND NO PITTING OF THE METAL CAN BE SEEN.	CAN NOT REMOVE SURFACE CORROSION RESIDUE WITH CLOTH. METAL IS PITTED UNDER CORROSION.
	DENTS	U	DAMAGE NOT EXCEEDING 10% OF SURFACE AREA OF ONE POCKET. NO MORE THAN FIVE DENTS IN ANY THREE (3) SQUARE INCH AREA WITH NO VOIDS. SIZE SHALL NOT EXCEED 1½ INCHES IN DIAMETER OR TWO INCHES IN LENGTH. DEPTH SHALL NOT BE GREATER THAN .060 INCH.	DAMAGE EXCEEDING NEGLIGIBLE DEFECTS.
	LOOSE	G	SINGLE LOOSE RIVET IN EACH ROW IS ACCEPTABLE.	INDICATIONS OF LOOSE RIVETS, VISIBLE WEAR RESIDUE (DARK RING) AROUND HEAD, DETERIORATED PAINT AND PRIMER AROUND HEAD, GROUP OF SEVERAL CONSECUTIVE RIVETS TIPPED IN SAME DIRECTION, VISIBLE SPACE UNDER HEAD, AND/OR MOVE RIVET WITH FINGER PRESSURE. IF RIVET IS MISSING, MARK AS LOOSE RIVET AND MAKE NOTE OF THIS IN REMARKS SECTION.
SHEET METAL, FORGINGS, CASTINGS, MOUNTS, & SPARS	CRACKED	E	NONE	ANY CRACKS IN SPECIFIED AREA. NOTE: FOR FORGINGS, CASTINGS, MOUNTS AND SPARS, VERIFY CRACKS BY DYE PENETRANT INSPECTION IF POSSIBLE.
	LOOSE RIVET	G	SINGLE LOOSE RIVET WILL BE ACCEPTABLE.	INDICATIONS OF LOOSE RIVETS, VISIBLE WEAR RESIDUE (DARK RING) AROUND HEAD, DETERIORATED PAINT AND PRIMER AROUND HEAD, GROUP OF SEVERAL CONSECUTIVE RIVETS TIPPED IN SAME DIRECTION, VISIBLE SPACE UNDER HEAD, AND/OR MOVE RIVET WITH FINGER PRESSURE.
	BUCKLED	B	NONE	SHEET METAL THAT HAS BEEN WARPED, KINKED, DEFORMED BY AN EXTERNAL FORCE.
	TEMPORARY REPAIR	Y	REPAIRS AUTHORIZED BY EXISTING TECHNICAL DATA AND OF GOOD QUALITY WHICH CORRECT A DAMAGED AREA. THESE REPAIRS ARE CONSIDERED PERMANENT REPAIRS AND SHALL NOT BE MARKED.	REPAIRS WHICH ARE NOT EQUAL TO OR BETTER THAN THE ORIGINAL STRUCTURE.
	CORRODED	D	SURFACE CORROSION WHICH CAN BE WIPED AWAY WITH A CLOTH AND PITTING DEPTH IS 10% OR LESS THAN THE MATERIAL THICKNESS. AREA OF CORROSION SHALL BE 10% OR LESS THAN THE SURFACE AREA OF THE PART.	CORROSION WHICH CAN NOT BE WIPED AWAY AND/OR PITTINGS IS OVER 10% OF MATERIAL THICKNESS. CORRODED AREA IS MORE THAN 10% OF THE TOTAL SURFACE OF THE PART.
	BOLTS IN LIEU OF RIVETS	Z	NONE NOTE: IF UNACCEPTABLE BOLTS HAVE BEEN INSTALLED AND THE ACE INDICATOR DOES NOT HAVE THE CODE FOR IMPROPER HARDWARE, USE THIS CODE TO SHOW DEFECT.	CLOSE TOLERANCE BOLTS LISTED IN APPENDIX H ARE ACCEPTABLE SUBSTITUTES FOR HI-SHEAR RIVETS AND HI-LOCK FASTENERS. IF ANY OF THESE BOLTS HAVE BEEN INSTALLED IN A CRITICAL AREA, E.G., HIGH STRESS AREAS OR INTERCHANGEABLE (HARD) POINTS, MARK THIS CODE.
	IMPROPER HARDWARE	T	NONE	ANY HARDWARE USED AS A SUBSTITUTE FOR ORIGINAL HARDWARE AND HAS NOT BEEN APPROVED BY EXISTING TECHNICAL DATA. EXAMPLE: UNAPPROVED BOLTS REPLACING HI-SHEAR RIVETS OR HI-LOCK FASTENERS
	SCRATCHED	A	SUPERFICIAL SCRATCHES WHICH ARE NOT DEEPER THAN 10% OF MATERIAL THICKNESS OR LESS THAN .010 INCH DEEP.	SCRATCHES WHICH WILL EXCEED 10% OF THE MATERIAL THICKNESS OR OVER .010 INCH DEEP AFTER CLEANUP
WIRING	DETERIORATED	C	NONE	COAXIAL CABLE INSULATION WHICH IS OIL & HYDRAULIC FLUID SOAKED CHECK CABLE BY ROLLING INSULATION BETWEEN THUMB & INDEX FINGER. IF INSULATION ROLLS FREE OF WIRING, THE CABLE IS DETERIORATED. DISCOLORED WIRES (BROWN OR GREY) INDICATE OVERHEATING. IF DISCOLORATION IS MORE THAN THREE (3) INCHES ON ANY WIRE, MARK WIRE DETERIORATED.
	CRACKED	E	CRACKED INSULATION ON ONE WIRE IN ANY ONE BUNDLE.	CRACKED INSULATION ON TWO (2) OR MORE WIRES IN ANY BUNDLE.
	TEMPORARY REPAIR	Y	REPAIRS WHICH ARE OF GOOD QUALITY AND PREVENT CONTAMINATION AND MEETS	REPAIRS NOT MEETING NEGLIGIBLE DEFECT CRITERIA. WIRE BUNDLES IN WHICH ALL WIRES HAVE BEEN SPLICED AT ONE LOCATION.
PAINT	GOOD	M		PAINT COVERAGE COMPLETE. FEW CRACKS ON PAINT OR RIVET HEADS.
	FAIR	L		GENERAL CRACKING OF PAINT ON RIVET HEADS. MOST RIVET HEADS STILL COVERED. FLAT SURFACES NEARLY COMPLETELY COVERED.
	POOR	K		MOST RIVET HEADS PARTLY BARE, SOME CHIPPING OF PAINT ON APPROXIMATELY 1/3 OF EXTERIOR SURFACE. PAINT CHECKED ON FLAT SURFACES ON 1/3 OF EXTERIOR
	DETERIORATED	C		MORE THAN 1/3 OF EXTERIOR EXHIBITS CHIPPING OF PAINT. MOST RIVET HEADS BARE. PAINT OBVIOUSLY WITH [illegible] LAST SEVERAL YEARS.

In evaluating repairs, special care should be taken to distinguish permanent repairs from temporary repairs. Each repair of a defect (for example, punctures, cracks, dents, contamination, and delamination) in an indicator area is evaluated on its own merit. Authorized permanent repairs are not repaired or replaced and, therefore, no weighted condition codes are marked (unless they exceed one repair per pocket on bonded panels) on the ACE worksheet; temporary repairs are assessed points via applicable condition codes. The following are definitions of permanent and temporary repair.

Permanent Repair - A repair authorized by existing technical data and of good appearance which is sufficient to compensate for the damaged area. Wiring repair is of a nature to disallow contamination and shorts. Sheet metal repairs are standard with quality built in (edge distance, size and number of rivets, spacing and coatings). Honeycomb structure repairs are high quality bonded patches or fills. Patches on panels do not exceed one patch per pocket. (Additional patches change the rigidity of the panel and cause premature failure of adjacent structure.) Permanent repairs are not considered as detracting from the structural, sheet metal or electrical integrity of the aircraft.

Temporary Repair — Any repair not meeting the above criteria and not equal to the original structure, sheet metal, or wiring standards (including only one repair per pocket on bonded panel).

Once the worksheet(s) for a specific profile are completed, the information is transferred onto a summary form. To ensure the validity of all data gathered, the ACE/AACE team leader must sign all completed worksheets and the summary form. Appendix A contains an example of a worksheet and summary form and the copies needed to complete all the forms. Appendix B identifies various Army forms that may be used by an ACE profiler.

Performance of ACE qualifies for the significant historical data criteria of TM 38-750 therefore, performance of the evaluation should be documented on DA Form 2408-15 (see Appendix B). The standard entry is as follows:

OCM/ACE PERFORMED _____ A/C RS, AT _____ BY ACE

TEAM MEMBER_____ AVSCOM OCM SEC. ST. LOUIS, MO.

Upon completion of the aircraft profile, the master record, worksheets, and summary forms are sent to the following address for data compilation:

Commander
U.S. Army Aviation Systems Command
ATTN: AMSAV-MPDOP
4300 Goodfellow Blvd.
St. Louis, MO 63120

3.0 AACE PROFILING GUIDELINES

Profiling an aircraft in accordance with the aircraft analytical corrosion evaluation (AACE) procedure involves carefully examining the basic aircraft structure for corrosion defects. As with the airframe condition evaluation (ACE), pre-selected indicators and applicable corrosion codes are used to assess the exterior areas of components, both structural and dynamic. The criteria for selecting corrosion indicators are, in part, based upon providing simplicity of inspection conduct. Therefore, the indicators are easily detected and readily accessible. Table 3-1 presents the estimated times to complete an ACE/AACE profile for specific aircraft. The inspection does *not* apply in any way to aircraft that experience damage from combat operations, crashes, or accidents. The AACE inspection is performed in conjunction with the ACE by the ACE/AACE team.

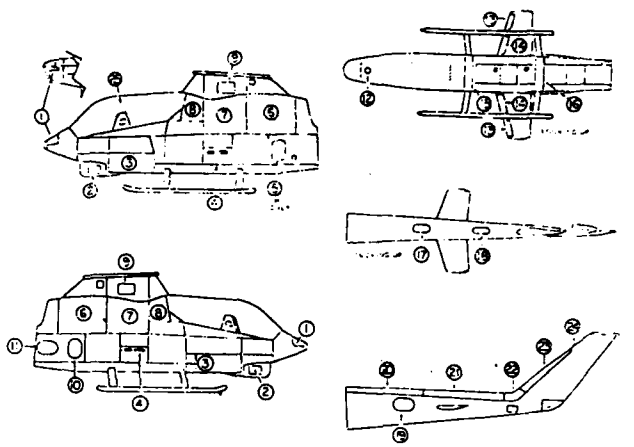
Table 3-1 Estimated ACE/AACE Examination Times

Aircraft Type	Time (hrs. min.) (ACE) + (AACE)
OH-58	1:05 + 2:00
AH-1	2:05 + 2:00
UH-1	1:35 + 2:00
UH-60	2:45 + 2:00
CH-47	3:05 + 2:00

Before inspection of the corrosion indicators, specified sections of the aircraft are exposed for viewing. All aircraft disassembly is performed by the operational unit, not the ACE/AACE team. The minimum desirable working team to be provided by the operational unit to aid in the inspection is a unit technical inspector and the aircraft crew chief. For the inspection, the unit technical inspector places the aircraft on a RED X. Upon inspection completion, the aircraft is returned to an appropriate status. Figure 3-1 provides an example of an aircraft preparation for AACE inspection.

The following equipment is possessed by each AACE profiler during aircraft inspection:

- Two inspection mirrors.
- Two three cell flashlights and spare batteries.
- One honeycomb sounding tool.
- Two rigid bristle brushes.
- Any technical manuals, Army adminstrative publications (i.e. regulations) and administrative publications of the Command, if needed.



1. Open nose door
2. *Open turret access doors (L/H and R/H)
3. *Open ammunition compartment doors Remove ammunition drums (L/H & R/H)
4. *Remove access panels (L/H & R/H)
5. *Remove oil cooler duct
6. *Open engine cowl doors (L/H & R/H)
7. *Open pylon cowl doors (L/H & R/H)
8. Open access doors (L/H & R/H)
9. Open access doors (L/H & R/H)
10. Remove oil cooler duct panel
11. *Remove aft battery compartment panel
12. Remove nose interior access panel
13. Remove wing outboard covers (L/H & R/H)
14. Remove wing inboard covers (L/H & R/H)
15. Remove forward crosstube fairing
16. Remove aft crosstube fairing
17. Open tailboom access door
18. Open tailboom access door
19. Open avionics compartment door
20. Open drive shaft forward cover
21. Open drive shaft aft cover
22. Open gearbox cover
23. Open fin drive shaft cover
24. Remove gearbox fairing
25. Open pilot's and gunner's canopy

* Also removed for ACE

Figure 3-1 AH-1/TH-1 Preparation for AACE

Inspection Conduct

The indicators and applicable corrosion codes selected for each aircraft in the AACE program are used to inspect the basic fuselage structural members and dynamic components and component structures in an effort to detect general progressive deterioration of the aircraft due to the effects of corrosion. The ACE/AACE team examines the aircraft in an orderly manner, thereby accomplishing the inspection profile, and records the results using corrosion codes preestablished for each indicator. This is done in accordance with AVSCOM Pamphlet series 750-2, and the AACE worksheets provided therein, developed by the Depot Engineering and RCM Support Office. Each pamphlet delineates, in a systematic order, the indicators and corrosion codes selected for profiling a specific type of aircraft.

The matrix presented in Table 3-2 provides a comparison of all current indicators for the various aircraft participating in the AACE program. These indicators are provided for profilers on the worksheets contained in the applicable aircraft AVSCOM 750-2 Pamphlet.

The corrosion codes are used to identify the condition of the indicator being inspected. Corrosion codes identify the level of maintenance and action needed. The selection of a corrosion code by the ACE/AACE team dictates the indicator weight (numerical value) for use in formulating the aircraft profile index. However, the ACE/AACE team does not have knowledge as to what the current indicator weights are. Table 3-3 presents the criteria corresponding to the various corrosion codes.

Appendix C provides material delineating the types and forms of corrosion as well as general guidelines for the examination and removal of corrosion. This appendix should be addressed, as needed, to maintain a consistent familiarization with corrosion characteristics.

The inspection proceeds in respect to the order of indicators on the applicable AACE worksheet(s) following a counterclockwise motion about the aircraft. The ACE/AACE team proceeds through the profile until an indicator deficiency is found. At this point, the applicable corrosion code is determined and circled on the worksheet. This process continues until the profile is completed.

Any safety-of-flight items that are discovered during the profile should be verbally brought to the attention of the unit technical inspector. In no case does the ACE/AACE team ground or suggest that an aircraft be grounded; this is a decision to be made by the unit technical inspector and/or maintenance officer.

Once the worksheet(s) for a specific profile are completed, the information is transferred onto a summary form. To ensure the validity of all data gathered, the ACE/AACE team leader must sign all completed AACE worksheets and summary forms. Appendix A contains an example of the worksheets and summary forms and also the codes needed to complete all the forms. Appendix B identifies various Army forms that may be used by an AACE profiler.

Table 3-2 Matrix of AACE Indicators

AACE Indicators (Generalized) / Indicators / Aircraft	UH-1H/V	AH-1/TH-1	UH-1B/C/M	OH-58A/C	CH-47 A/B/C/D	UH-60A
Nose Structure and Skin	●	●	●	●	●	
XM-28 Fuselage Attach Points		●				
Gunners Floor Area		●				
Ammo Compartment Structures		●				
Ammo Compartment Electrical		●				
Pilots, Passenger, and Cargo Floor Areas, Above/Under		●		●	●	●
Pilots Compartment Aft Bulkhead		●				
Hydraulic Compartment		●	●			
Stub Wing L/H and R/H		●				
Pylon Area, Supports	●	●		●		●
Deck Areas	●	●	●		●	
Oil Cooler Compartment		●				
Fuselage Exterior Skin L/H and R/H		●		●	●	
Avionics Compartment		●		●	●	
Tailboom Attach Fittings		●	●	●		
Tailboom Attach Bulkhead		●	●			
Transmission Compartment		●	●		●	●
Main Transmission	●	●	●	●	●	●
Main Rotor Blades	●	●	●	●		●
Main Rotor Hub Assy	●	●	●	●	●	●
Servo Flight Control Tubes	●	●	●	●		
Mast Assy	●	●	●	●	●	●
Swashplate, Support, Scissors, & Sleeve Assy	●	●	●	●	●	●
Short Shaft Assy and Engine		●	●	●	●	●

Table 3-2 Matrix of AACE Indicators (Cont'd)

AACE Indicators (Generalized) / Aircraft	UH-1B/V	AH-1/TH-1	UH-1B/C/M	OH-58A/C	CH-47 A/B/C/D	UH-60A
Tail Rotor Drive Shafting and Hanger Brackets	●	●	●	●	●	●
42° and 90° Gear Box Assy	●	●	●	●		
Tailboom Fin and Horiz Stabilizer Assy	●	●	●	●		
Tailboom Internal and External	●	●	●	●		
Pilots, Crew, and Cargo Doors	●		●	●		●
Forward Tie Down Attach Fitting	●					
Auxiliary Fuel Fittings	●					
Forward and Aft Tunnel Areas	●	●	●			
Forward, Center, and Aft Skin Areas	●	●	●		●	●
Forward Main Beam Panel Area	●		●			
Pylon Panels, Fwd and Aft	●					
Main Lift Beam Assy	●	●	●	●		
Aft Cabin Lower and Upper Panels	●		●			
Upper Cap Angle	●					
Radio Compartment Upper and Lower	●					
Electrical Compartments, Panels, Flooring	●			●		●
Battery Compartments, Panels, Flooring	●				●	
Canted Bulkhead and Split Deck Area	●					
External Stores	●					
Fwd Jacking and Mooring Fixture, L/H, R/H			●			
Lower Skin Between Tunnel Areas			●			
Fuel Cell Inboard, Outboard Panel Areas			●			
Equipment Compartments			●		●	
Pylon Assy and Fifth Mount Support Area			●			

Table 3-2 Matrix of AACE Indicators (Cont'd)

AACE Indicators (Generalized) / Indicators	Aircraft UH-1H/V	AH-1/TH-1	UH-1B/C/M	OH-58A/C	CH-47 A/B/C/D	UH-60A
Overhead Circuit Panel				●		
Aft, Fwd Crosstube Attach Areas				●		
Center Post Installation				●		
Root Sections, Panels				●		
Cyclic and Collective Control				●	●	●
Aft, Fwd Fuselage, Internal				●		
Tail Rotor and Hub				●		●
Bulkhead Installation				●		
Tailcone Structure, Int/Ext.						●
Cargo Hook and Support Beam						●
Fwd, Aft Landing Gear and Attach Pts					●	●
Stabilator						●
Storage Shelf						●
Fwd, Aft Transition Structure, Internal						●
Overhead Tunnel Areas					●	
Cargo Ramp and Castings					●	
Formers and Surroundings					●	
Fuel Pod					●	
Rescue Hatch Area					●	
Fuselage Structure, Companionway/Cargo Floor Access					●	

Table 3-3 AACE Indicator Corrosion Codes and Criteria

STRUCTURAL MEMBERS	AACE SYMBOL → / CORROSION CRITERIA	(A)	(B)	(C)	(D)	(E)	(F)
SKINS, WEBS, COVERS, COWLINGS, AND FAIRINGS	CORROSION DEPTH, EXPRESSED AS A PERCENTAGE OF METAL THICKNESS	10-100% AND	1-10% AND	10-100% AND	1-10% AND	10-100% AND	1-10% AND
	CORROSION COVERAGE, EXPRESSED AS A PERCENTAGE OF COMPONENT SURFACE AREA	50-100%	25-50%	10-50%	10-25%	1-10%	1-10%
LONGERONS, CAPS STRINGERS	CORROSION DEPTH, EXPRESSED AS A PERCENTAGE OF METAL THICKNESS	25-100% AND OR 1-25% AND	1-25% AND	25-100% AND	1-25% AND	25-100% AND	1-25% AND
	CORROSION COVERAGE, EXPRESSED AS A PERCENTAGE OF COMPONENT LENGTH	30-50% OR 50-100%	30-50%	10-30%	10-30%	1-10%	1-10%
BULKHEADS, FORMERS, DECKS, AND SHELVES	CORROSION DEPTH, EXPRESSED AS A PERCENTAGE OF METAL THICKNESS	10-100% AND OR 1-10% AND	1-10% AND	10-100% AND	1-10% AND	10-100% AND	1-10% AND
	CORROSION COVERAGE, EXPRESSED AS A PERCENTAGE OF COMPONENT SURFACE AREA	30-50% OR 50-100%	30-50%	30-50%	20-30%	1-20%	1-20%
COMPOSITE PANELS (SOLID AND HONEYCOMB)	CORE CORROSION, IN SQUARE INCHES OF SURFACE AREA	GREATER THAN 12 SQ. IN. OR	NONE	6-12 SQ. IN. AND	NONE	NO GREATER THAN 5 SQ. IN AND	
	SURFACE CORROSION, EXPRESSED AS A PERCENTAGE OF SURFACE AREA	60-100%	25-60%	0-25%	10-25%	0-10%	1-10%
HOUSINGS, CASES, FITTINGS, AND SUPPORTS (CASTINGS AND FORGINGS)	CORROSION DEPTH, EXPRESSED AS A PERCENTAGE OF METAL THICKNESS	10-100% AND OR 1-10% AND	1-10% AND	10-100% AND	1-10% AND	10-100% AND	1-10% AND
	CORROSION COVERAGE, EXPRESSED AS A PERCENTAGE OF COMPONENT SURFACE AREA	25-40% OR 40-100%	25-40%	15-25%	15-25%	1-15%	1-15%
FASTENERS - BOLTS, INSERTS, NUTS, AND RIVETS	AREA OF CORROSION PITTING, EXPRESSED AS A PERCENTAGE OF VISIBLE SURFACE AREA	10-100% AND	1-10% AND	10-100% AND	1-10% AND	10-100% AND	1-10% AND
	AMOUNT OF AFFECTED FASTENERS, EXPRESSED AS A PERCENTAGE OF THE TOTAL NUMBER OF FASTENERS IN THE INDICATOR	20-100%	20-30%	10-20%	10-20%	1-10%	1-10%
SHAFTS AND TUBES	CORROSION DEPTH, EXPRESSED AS A PERCENTAGE OF METAL, THICKNESS	5-100% AND	1-5% AND	5-100% AND	1-5% AND	5-100% AND	1-5% AND
	CORROSION COVERAGE, EXPRESSED AS A PERCENTAGE OF COMPONENTS SURFACE AREA	30-100%	20-30%	10-20%	10-20%	1-10%	1-10%
STIFFENERS, ANGLES, DOUBLERS, AND GUSSETS	CORROSION DEPTH, EXPRESSED AS A PERCENTAGE OF METAL THICKNESS	10-100% AND OR 1-10% AND	1-10% AND	10-100% AND	1-10% AND	10-100% AND	1-10% AND
	CORROSION COVERAGE, EXPRESSED AS A PERCENTAGE OF COMPONENT SURFACE AREA	30-50% OR 50-100%	30-50%	15-30%	15-30%	1-15%	1-15%
TAURIC COMPONENTS, SKIDS, AND LANDING GEAR	CORROSION DEPTH, EXPRESSED AS A PERCENTAGE OF METAL THICKNESS	5-100% AND	1-5% AND	5-100% AND	1-5% AND	5-100% AND	1-5% AND
	CORROSION COVERAGE, EXPRESSED AS A PERCENTAGE OF COMPONENT SURFACE AREA	20-100%	20-100%	10-20%	10-20%	1-10%	1-10%
ELECTRICAL CONNECTORS, COMPONENTS, AND WIRING	CORROSION ON WIRING?	OVER 7 WIRES OR	NO OR	4-7 WIRES OR	NO OR	1-3 WIRES OR	NO OR
	AREA OF CORROSION PITTING, EXPRESSED AS A PERCENTAGE OF VISIBLE SURFACE AREA OF ITEM	5-100% AND	1-5% AND	5-100% AND	1-5% AND	5-100% AND	1-5% AND
	AMOUNT OF AFFECTED HARDWARE, EXPRESSED AS A PERCENTAGE OF TOTAL NUMBER OF ELECTRICAL ITEMS IN THE INDICATOR	50-100%	50-100%	30-50%	30-50%	1-30%	1-30%

Performance of AACE qualifies for the significant historical data criteria of TM 38-750; therefore, accomplishment of the inspection is entered on DA Form 2408-15 (see Appendix B). The standard entry is as follows:

OCM/ACE PERFORMED _____ A/C RS, AT _____ BY ACE

TEAM MEMBER_____ AVSCOM OCM SEC. ST. LOUIS, MO.

Upon completion of the aircraft profile, the master record, worksheets, and summary sheets are sent to the following address for data compilation:

Commander
U.S. Army Aviation Systems Command
ATTN: AMSAV-MPDOP
4300 Goodfellow Blvd.
St. Louis, MO 63120

APPENDIX A

FORMS AND COMPLETION DATA

This appendix contains an example of both an ACE and AACE worksheet and summary form. It also contains the geographical codes, command codes, aircraft special mission codes, and Julian date calendar needed to complete the ACE/AACE worksheets and summary forms.

ACE Worksheet
(Example, page 1 of 2)

AIRFRAME CONDITION EVALUATION (ACE) UH-1B/C/M TUW AVSCOM PAM 750-1 (4)	MASTER	EAM	UNIT	AREA	LOCATION

Card Col	PROFILE	INDICATOR NOMENCLATURE	ITEM	A/C SER #
01	T U W	TYPE/MODEL/SERIES	1	
02-08		SERIAL NUMBER	2	
09		SPECIAL MISSION	3	
10		MAJOR COMMAND	4	
11-12		GEOGRAPHICAL LOCATION	5	
13-16		JULIAN DATE OF ACE	6	
17	N O	A/C NEW OR OVERHAULED	7	
18	C N P S K	O/H BY	8	
19-22		A/C HRS AT TIME OF OVERHAUL	9	
23-26		JULIAN DATE OF OVERHAUL	10	
27-30		TOTAL HRS ON A/C	11	
31	C K L M	OVERALL CONDITION	12	
32	C K L M	PAINT CONDITION	13	
33	E G F Y R	CARGO DOOR POST UPPER & LOWER L/H	14	
34	E G B Y R	CARGO DOOR UPPER FRAME L/H	15	
35	S C Y J D U R	UPPER AFT CABIN BULKHEAD PANEL L/H	16	
36	S C Y J D U R	FUEL CELL FORWARD BULKHEAD PANEL L/H	16	
37	S C Y J D U R	UPPER AFT CABIN BULKHEAD CENTER PANEL	16	
38	S C Y J D U R	UPPER AFT CABIN BULKHEAD PANEL R/H	16	
39	S C Y J D U R	FUEL CELL FORWARD BULKHEAD PANEL R/H	16	
40	S C Y J D U R	FUEL CELL UPPER OUTBOARD PANEL L/H	16	
41	S C Y J D U R	FUEL CELL CENTER OUTBOARD PANEL L/H	16	
42	S C Y J D U R	FUEL CELL LOWER OUTBOARD PANEL L/H	16	
43	S C Y J D U R	FUEL CELL UPPER AFT BULKHEAD L/H	16	
44	S C Y J D U R	FUEL CELL LOWER AFT BULKHEAD L/H	16	
45	E A Y R	UPPER AFT DOOR TRACK L/H & R/H	17	
46	E A Y R	LOWER AFT DOOR TRACK L/H & R/H	17	
47	S C Y J D U R	WORK DECK PANEL L/H	16	
48	C E Y R	WIRE BUNDLES, AVIONICS COMPARTMENT	25	
49	E G B Y R	AFT FUSELAGE VERTICAL WEB	18	
50	E G B Y R	TAILBOOM VERTICAL SKIN	19	
51	E G Z R	TAILBOOM ATTACH FITTING UPPER & LOWER L/H	20	
52	E G Z R	TAILBOOM ATTACH FITTING UPPER & LOWER R/H	20	
53	S C Y J D U R	FUELL CELL AFT BULKHEAD PANEL R/H	16	
54	S C Y J D U R	FUEL CELL UPPER OUTBOARD PANEL R/H	16	
55	S C Y J D U R	FUEL CELL LOWER OUTBOARD PANEL R/H	16	
56	S C Y J D U R	WORK DECK PANEL R/H	16	
57	S C Y J D U R	CENTER SERVICE (ENGINE) DECK	16	
58	E G B Y R	PYLON ASSEMBLY HORIZONTAL WEBS, L/H & R/H	21	
59	E G Y R	FIFTH MOUNT ATTACH AREA	22	
60	E G Y T Z R	LIFT BEAM, WEBS AND LOOSE HI-SHEARS	23	
61	S C Y J D U R	ROOF DECK PANEL	16	
62	E G B Y A R	CARGO DOOR UPPER FRAME R/H	15	

NAME PROFILER	RECORDS

ACE FY

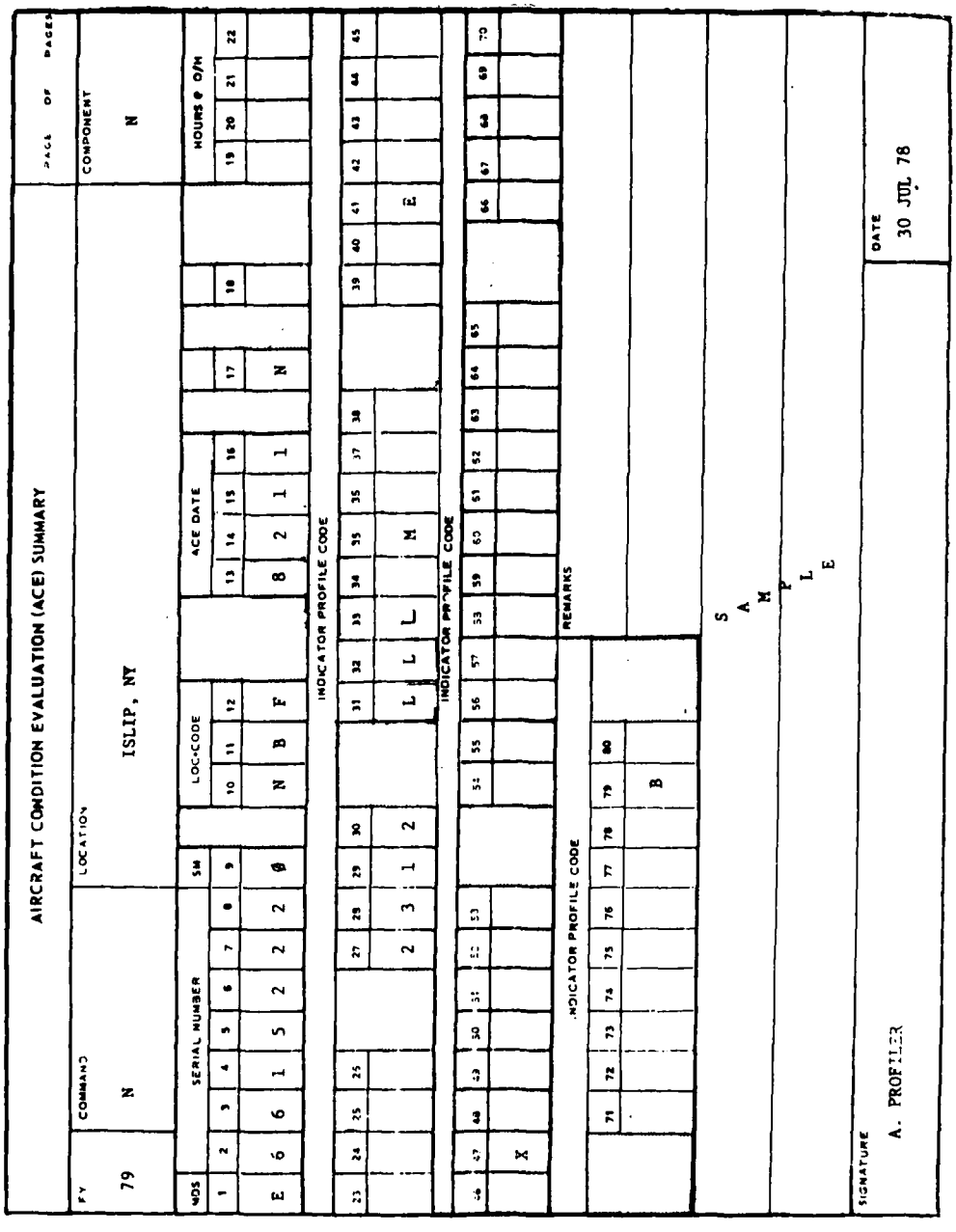
AACE Worksheet
(Example, page 1 of 2)

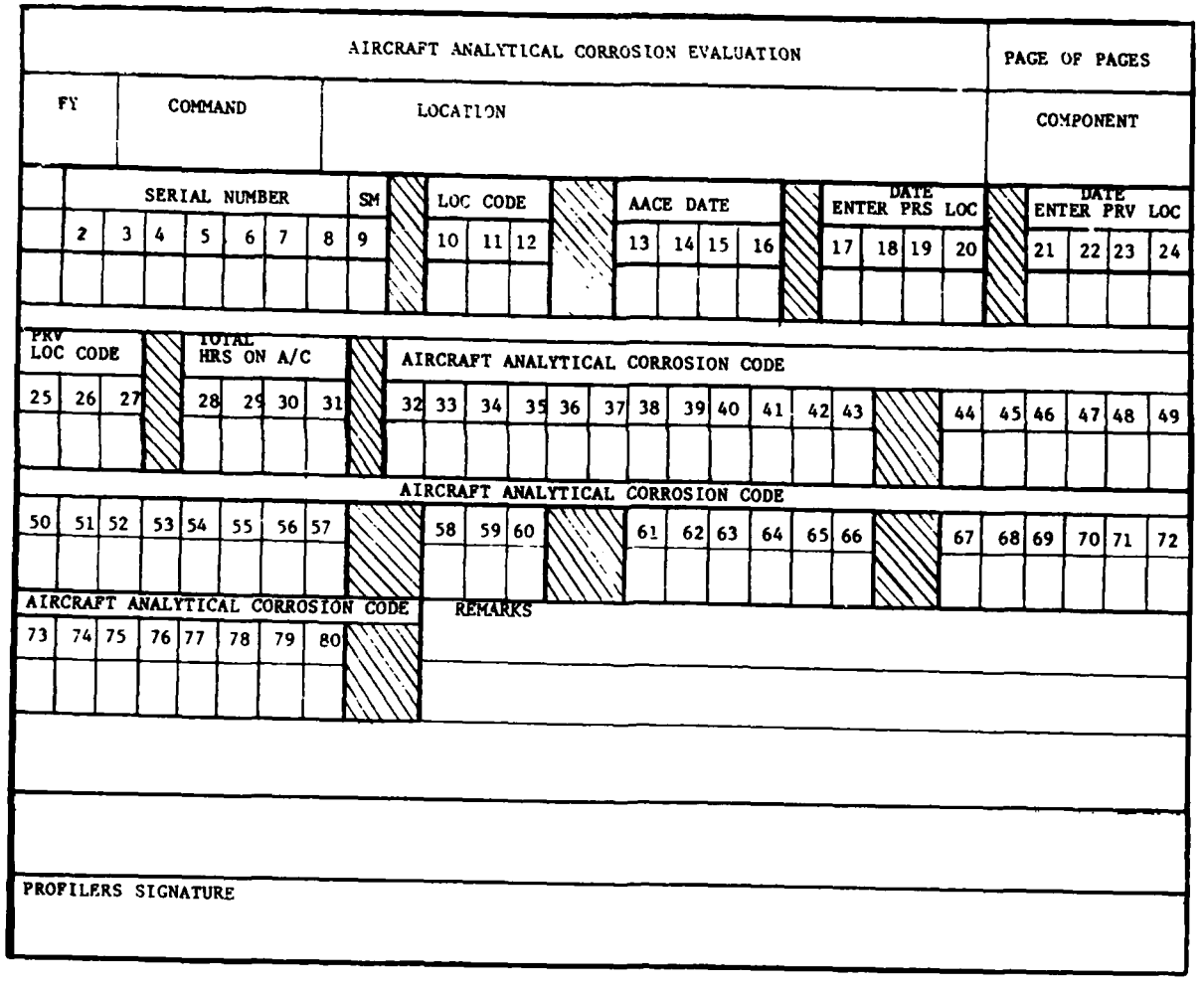
AIRCRAFT ANALYTICAL CORROSION EVALUATION (AACE) OH-58A/C AVSCOM PAM 750-2(2)	MASTER	EAM	UNIT	AREA	LOCATION

CARD COL	PROFILE	INDICATOR NOMENCLATURE	ITEM	
01		TYPE/MODEL/SERIES	1	AIRCRAFT SERIAL NO.
02-08		SERIAL NUMBER	2	
09		SPECIAL MISSION	3	
10		MAJOR COMMAND	4	
11-12		PRESENT LOCATION OF A/C	5	
13-16		JULIAN DATE OF INSPECTION	6	
17-20		JULIAN DATE ENTERING PRESENT LOCATION	7	
21-24		JULIAN DATE ENTERING PREVIOUS LOCATION	8	
25		PREVIOUS MAJOR COMMAND	9	
26-27		PREVIOUS GEOGRAPHICAL LOCATION	10	
28-31		TOTAL HOURS ON A/C	11	
32	A B C D E F R	NOSE SECTION	12	
33	A B C D E F R	FUSELAGE BOTTOM, FORWARD OF CROSSTUBE	13	
34	A B C D E F R	FORWARD CROSSTUBE ATTACH AREA	14	
35	A B C D E F R	FUSELAGE BOTTOM, BETWEEN CROSSTUBES	13	
36	A B C D E F R	AFT CROSSTUBE ATTACH AREA	14	
37	A B C D E F R	FUSELAGE BOTTOM, BETWEEN CROSSTUBE & TAILBOOM	13	
38	A B C D E F R	COPILOT'S DOOR AND DOORFRAME AREA	15	
39	A B C D E F R	COPILOT'S FLOOR AND SEAT AREA	16	
40	A B C D E F R	OVERHEAD CIRCUIT BREAKER	17	
41	A B C D E F R	BULKHEAD INSTALLATION, L/H	18	
42	A B C D E F R	LEFT PASSENGER DOOR AND DOORFRAME AREA	15	
43	A B C D E F R	CENTERPOST INSTALLATION, L/H	19	
44	A B C D E F R	PASSENGER FLOOR, SEAT, & SEATBACK INSTALL, L/H	20	AACE PY
45	A B C D E F R	UPPER CABIN ROOFBEAM	21	
46	A B C D E F R	AVIONICS COMPARTMENT	22	
47	A B C D E F R	LEFT ROOF SECTION, FOREWARD OF FIREWALL	23	
48	A B C D E F R	CYCLIC & COLLECTIVE CONTROLS INSTALLATION	24	
49	A B C D E F R	LEFT ROOF SECTION, BETWEEN FIREWALLS	23	
50	A B C D E F R	AFT FUSELAGE, L/H	25	
51	A B C D E F R	ROOF SECTION, FIREWALL TO TAILBOOM	23	
52	A B C D E F R	BATTERY COMPARTMENT	26	
53	A B C D E F R	TAILBOOM EXTERIOR	27	
54	A B C D E F R	TAILROTOR DRIVE SHAFTING	28	
55	A B C D E F R	TAILROTOR HANGER BRACKETS	29	
56	A B C D E F R	90 DEGREE GEARBOX AND ATTACH AREA	30	
57	A B C D E F R	TAILROTOR AND HUB	31	
58	A B C D E F R	TAILBOOM FIN AND HORIZONTAL STABILIZER	32	
59	A B C D E F R	TAILBOOM ATTACH FITTINGS	33	
60	A B C D E F R	AFT FUSELAGE, INTERNAL	34	

NAME PROFILER	RECORDS

ACE Summary Form
(Example)





AACE Summary Form
(Example)

Data Recording Codes

Geographical Location Codes (States)

AL Alabama	HI Hawaii	MA Massachusett	NM Mew Mexico	SD South Dakota
AK Alaska	ID Idaho	MI Michigan	NY New York	TN Tennessee
AZ Arizona	IL Illinois	MN Minnosota	NC North Carolina	TX Texas
AR Arkansas	IN Indiana	MS Mississippi	ND North Dakota	UT Utah
CA California	IA Iowa	MO Missouri	OH Ohio	VT Vermont
CO Colorado	KS Kansas	MT Montana	OK Oklahoma	VA Virginia
CT Connecticut	KY Kentucky	NE Nebraska	OR Oregon	WA Washington
DE Delaware	LA Louisiana	NV Nevada	PA Pennsylvania	WV West Virginia
FL Florida	ME Maine	NH New Hamphire	RI Rhode Island	WI Wisconsin
GA Georgia	MD Maryland	NJ New Jersey	SC South Carolina	Wy Wyoming

Geographical Location Codes

Europe		Pacific		Southern	
BZ	Belgium	AY	Japan	AX	Panama
CZ	Germany	BY	Kwajalein	BX	Puerto Rico
DZ	Greece	CY	Korea		
EZ	Italy				
FZ	Turkey				

Command Codes

A - DARCOM	H - BLANK	R - US ARMY RESERVE
B - BAILED	J - JAPAN	S - STORED
C - TSARCOM (NICP)	K - MLDFCMD (KAWJALEIN)	T - TRADOC
D - DCSPER	L - LOANED	U - EIGHTH US ARMY KOREA
E - USAREUR	M - MDW	V - USARSO
F - FORSCOM	N - US ARMY NATIONAL GUARD	W - OTHER: REDCOM, TSG, HEALTH SVC
G - BLANK	P - WESTCOM	X - STATE DEPARTMENT

Aircraft Special Mission Codes

2 - Reserved	6 - Fire Equipped
3 - Non Standard Paint	7 - Electronic Equipped
4 - VIP/AC	8 - Weapon Equipped
5 - Medivac Equipped	0 - Standard Configuration

JULIAN DATE CALENDAR

(PERPETUAL)

Day	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Day
1	001	032	060	091	121	152	182	213	244	274	305	335	1
2	002	033	061	092	122	153	183	214	245	275	306	336	2
3	003	034	062	093	123	154	184	215	246	276	307	337	3
4	004	035	063	094	124	155	185	216	247	277	308	338	4
5	005	036	064	095	125	156	186	217	248	278	309	339	5
6	006	037	065	096	126	157	187	218	249	279	310	340	6
7	007	038	066	097	127	158	188	219	250	280	311	341	7
8	008	039	067	098	128	159	189	220	251	281	312	342	8
9	009	040	068	099	129	160	190	221	252	282	313	343	9
10	010	041	069	100	130	161	191	222	253	283	314	344	10
11	011	042	070	101	131	162	192	223	254	284	315	345	11
12	012	043	071	102	132	163	193	224	255	285	316	346	12
13	013	044	072	103	133	164	194	225	256	286	317	347	13
14	014	045	073	104	134	165	195	226	257	287	318	348	14
15	015	046	074	105	135	166	196	227	258	288	319	349	15
16	016	047	075	106	136	167	197	228	259	289	320	350	16
17	017	048	076	107	137	168	198	229	260	290	321	351	17
18	018	049	077	108	138	169	199	230	261	291	322	352	18
19	019	050	078	109	139	170	200	231	262	292	323	353	19
20	020	051	079	110	140	171	201	232	263	293	324	354	20
21	021	052	080	111	141	172	202	233	264	294	325	355	21
22	022	053	081	112	142	173	203	234	265	295	326	356	22
23	023	054	082	113	143	174	204	235	266	296	327	357	23
24	024	055	083	114	144	175	205	236	267	297	328	358	24
25	025	056	084	115	145	176	206	237	268	298	329	359	25
26	026	057	085	116	146	177	207	238	269	299	330	360	26
27	027	058	086	117	147	178	208	239	270	300	331	361	27
28	028	059	087	118	148	179	209	240	271	301	332	362	28
29	029		088	119	149	180	210	241	272	302	333	363	29
30	030		089	120	150	181	211	242	273	303	334	364	30
31	031		090		151		212	243		304		365	31

FOR LEAP YEAR USE REVERSE SIDE

JULIAN DATE CALENDAR

FOR LEAP YEARS ONLY

Day	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Day
1	001	032	061	092	122	153	183	214	245	275	306	336	1
2	002	033	062	093	123	154	184	215	246	276	307	337	2
3	003	034	063	094	124	155	185	216	247	277	308	338	3
4	004	035	064	095	125	156	186	217	248	278	309	339	4
5	005	036	065	096	126	157	187	218	249	279	310	340	5
6	006	037	066	097	127	158	188	219	250	280	311	341	6
7	007	038	067	098	128	159	189	220	251	281	312	342	7
8	008	039	068	099	129	160	190	221	252	282	313	343	8
9	009	040	069	100	130	161	191	222	253	283	314	344	9
10	010	041	070	101	131	162	192	223	254	284	315	345	10
11	011	042	071	102	132	163	193	224	255	285	316	346	11
12	012	043	072	103	133	164	194	225	256	286	317	347	12
13	013	044	073	104	134	165	195	226	257	287	318	348	13
14	014	045	074	105	135	166	196	227	258	288	319	349	14
15	015	046	075	106	136	167	197	228	259	289	320	350	15
16	016	047	076	107	137	168	198	229	260	290	321	351	16
17	017	048	077	108	138	169	199	230	261	291	322	352	17
18	018	049	078	109	139	170	200	231	262	292	323	353	18
19	019	050	079	110	140	171	201	232	263	293	324	354	19
20	020	051	080	111	141	172	202	233	264	294	325	355	20
21	021	052	081	112	142	173	203	234	265	295	326	356	21
22	022	053	082	113	143	174	204	235	266	296	327	357	22
23	023	054	083	114	144	175	205	236	267	297	328	358	23
24	024	055	084	115	145	176	206	237	268	298	329	359	24
25	025	056	085	116	146	177	207	238	269	299	330	360	25
26	026	057	086	117	147	178	208	239	270	300	331	361	26
27	027	058	087	118	148	179	209	240	271	301	332	362	27
28	028	059	088	119	149	180	210	241	272	302	333	363	28
29	029	060	089	120	150	181	211	242	273	303	334	364	29
30	030		090	121	151	182	212	243	274	304	335	365	30
31	031		091		152		213	244		305		366	31

(USE IN 1964, 1968, 1972, etc.)

APPENDIX B

ARMY AIRCRAFT LOGBOOK LIST

This appendix contains a listing of forms used within Army aviation having information and data relevant to the planning and analysis and aircraft profiling performed in ACE/AACE.

Army Aircraft Logbook Forms

Form number	Title	Use	Disposition
DA Form 2408	Equipment Log Assembly (Records)	Gives a reference to symbols used in logbook.	Remains in front of logbook.
DA Form 2408-4	Weapon Record Data	To provide a continuous record of firings and component replacements on armament system and subsystem(s). Maintained in the aircraft logbook on which the armament is mounted.	Form attached to weapon when evacuated or stored. Form destroyed and new one initiated upon overhaul or rebuild of weapon. Form filed, data transferred to new form. Filled form retained 90 days or until new form is filled, whichever occurs first, then destroyed.
DA Form 2408-5	Equipment Modification Record	To record data about modification on assemblies or components.	In logbook for equipment on which assembly is installed. Accompanies assembly when it is removed and placed on another end item.
DA Form 2408-9	Equipment Control Record	To provide initial basic equipment acceptance and identification information. Also provides means for updating information on ownership, location, usage, transfers, gains, losses, overhaul and rebuild, and disposition.	Disposition varies in accordance with form use. Instructions contained in TM 38-750 and TM 38-750-1.
DA Form 2408-12	Army Aviator's Flight Record	To record aircraft time and mission, and to record duty and type of flight performed by the aviator and crew.	Sent to the operations office at the end of each day. Destroyed after 3 months.
DA Form 2408-13	Aircraft Inspection and Maintenance Record	To record aircraft faults and action taken to correct them; to show flying hours, maintenance performed, and when inspections become due.	Sent at the end of each day to the aircraft maintenance office of the activity maintaining the aircraft. Destroyed after 6 months.
DA Form 2408-14	Uncorrected Fault Record	To list uncorrected faults on aircraft, including overdue replacement of components.	Destroyed 6 months after date of last entry.
DA Form 2408-15	Historical Record for Aircraft	To record historical data about an aircraft.	Permanent record in logbook, accompanies aircraft on transfer.
DA Form 2408-16	Aircraft Component Historical Record	To record historical data about aircraft components.	Permanent record in aircraft logbook; accompanies component on transfer.
DA Form 2408-17	Aircraft Inventory Record	Lists all property assigned to an aircraft; used to record periodic inventories of property.	A permanent part of the aircraft logbook.
DA Form 2408-18	Equipment Inspection List	To record most inspections on aircraft and components; provides record of component replacement.	Permanent record in logbook; accompanies aircraft on transfer.
DA Form 2408-19	Aircraft Engine Turbine Wheel Historical Record	To determine whether the turbine wheel can be overhauled or not and which of its parts should be replaced.	Retained with the turbine wheel throughout its service life.

APPENDIX C

CORROSION FORMS AND CAUSES

This appendix contains general information to familiarize a profiler with the nature, appearance, and causes of the various forms of corrosion.

CORROSION FORMS AND CAUSES

Corrosion is caused by the presence of salt in moist air, certain chemicals in water, elements in metal, treatment of parts, and contact of dissimilar metals. High temperature and moisture are drivers of fungus and bacterial growth which produce acids and other products which expedite corrosion etching of surfaces and oxidation. Corrosion is normally not as prevalent on painted, clad, or plated surfaces. The following types of corrosion are encountered:

- Superficial Corrosion - This type is the least serious on alclad parts. After deposits are removed, an etching is noticeable which results in the clad surface having a series of hills and valleys. Provided the etching has not reached the core, the effect on the strength of the metal is negligible. Corrosion of this same type on non-clad alloy parts is serious.

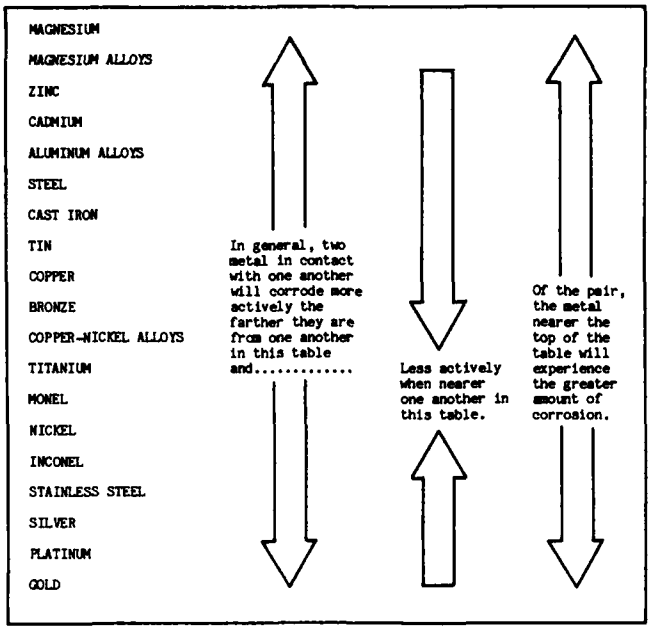
- Intergranular Corrosion - This type of corrosion is not easily detected. It is caused by imperfect heat treatment and occurs mostly in unclad structural aluminum alloy parts. It is the most dangerous form of corrosion for sheet stock because the strength of the metal is lowered without visible structural indicators.

- Stress Corrosion - This type occurs in a part along the line of grain flow if the part is stressed too high without proper heat treatment.

- Galvanic Corrosion - This type of corrosion occurs when dissimilar metals are in contact and an electrolyte is present at the joint between the metals. For example, aluminum and magnesium skins riveted together form a galvanic couple if moisture and contamination are present. When aluminum pieces are attached with steel bolts or screws, galvanic corrosion occurs between the aluminum and the steel. Table C-1 presents a galvanic series chart. Metals close togther, as illustrated in the table, have no strong tendency to produce galvanic corrosion and are relatively safe to use in contact with each other. The coupling of metals and the distance from each other in the table dictate the galvanic or accelerated corrosion of the metal higher on the table. The farther apart the metals are in the table, the greater is the galvanic tendency, as determined by measurement of the electrical potential difference between them.

- Hydroscopic Material Corrosion - This type of corrosion is caused by such materials as sponge rubber, felt, cork, etc., absorbing water and holding it in contact with the part.

Table C-1 Galvanic Series



The extent and form of corrosion is determined primarily through visual and dimensional nondestructive inspection methods. A secondary method is penetrating radiation (radiography), but this method is not commonly used. When examining corrosion, a fine pointed instrument is used to test the area, but caution must be taken to not further damage the area. It may be necessary to remove scales and powdery deposits before examination can occur.

Indicators of corrosion include brinelling, fretting, scuffing, slatting, galling, etching, abrading, etc. For example, electrolytic action causes the formation of slats and deep etching of surfaces. This occurs at riveted and bolted joints, bearings, slides, and screw threads. Table C-2 provides a list of alloys commonly used in aircraft structure and identifies the nature and appearance of corrosion as it occurs on each alloy.

To remove corrosion from steel alloys, the following methods are applicable: hot-alkali soak, abrasive-blast, wire brush, grind, phosphoric acid treatment, flame descale, etc. Caution is needed when removing corrosion to prevent possible dust explosions. Goggles or a face shield should be worn when utilizing wire brush, grinder, or abrasive-blast removal methods.

To remove corrosion from aluminum-base alloy materials, chromic acid treatment is applicable. Anodic treatment by the chromic acid process increases corrosion resistance and provides a surface that ensures proper adherence of finishes, (for example, paint).

Table C-2 Nature and Appearance of Corrosion

ALLOYS	TYPE OF ATTACK TO WHICH ALLOY IS SUSCEPTIBLE	APPEARANCE OF CORROSION PRODUCT
Aluminum Alloy	Surface pitting, intergranular and exfoliation.	White or gray powder.
Titanium Alloy	Highly corrosion resistant. Extended or repeated contact with chlorinated solvents may result in degradation of the metals structural properties.	No visible corrosion products.
Magnesium Alloy	Highly susceptible to pitting.	White powdery snow-like mounds, and white spots on surface.
Low Alloy Steel (4000-8000 series)	Surface oxidation and pitting, surface and intergranular.	Reddish-brown oxide (rust).
Corrosion Resistant Steel (CRES) (300-400 series)	Intergranular corrosion (due to improper heat treatment). Some tendency to pitting in marine	Corrosion evidenced by surface; sometimes by red, brown or black skin.
Nickel-base Alloy (Inconel)	Generally has good corrosion-resistant qualities. Sometimes susceptible to pitting.	Green powdery deposit.
Copper-base Alloy Brass, Bronze	Surface and intergranular corrosion.	Blue or blue-green powder deposit.
Cadmium (used as protective plating for steel)	Good corrosion resistance. If attack occurs, will protect steel from attack.	From white powdery corrosion products to brown or black melting of the surface.
Chromium (used as a wear-resistant plating for steels)	Subject to pitting in chloride environments.	Chromium, being cathodic to steel, does not corrode itself, but promotes rusting of steel where pits occur in the coating.

APPENDIX D

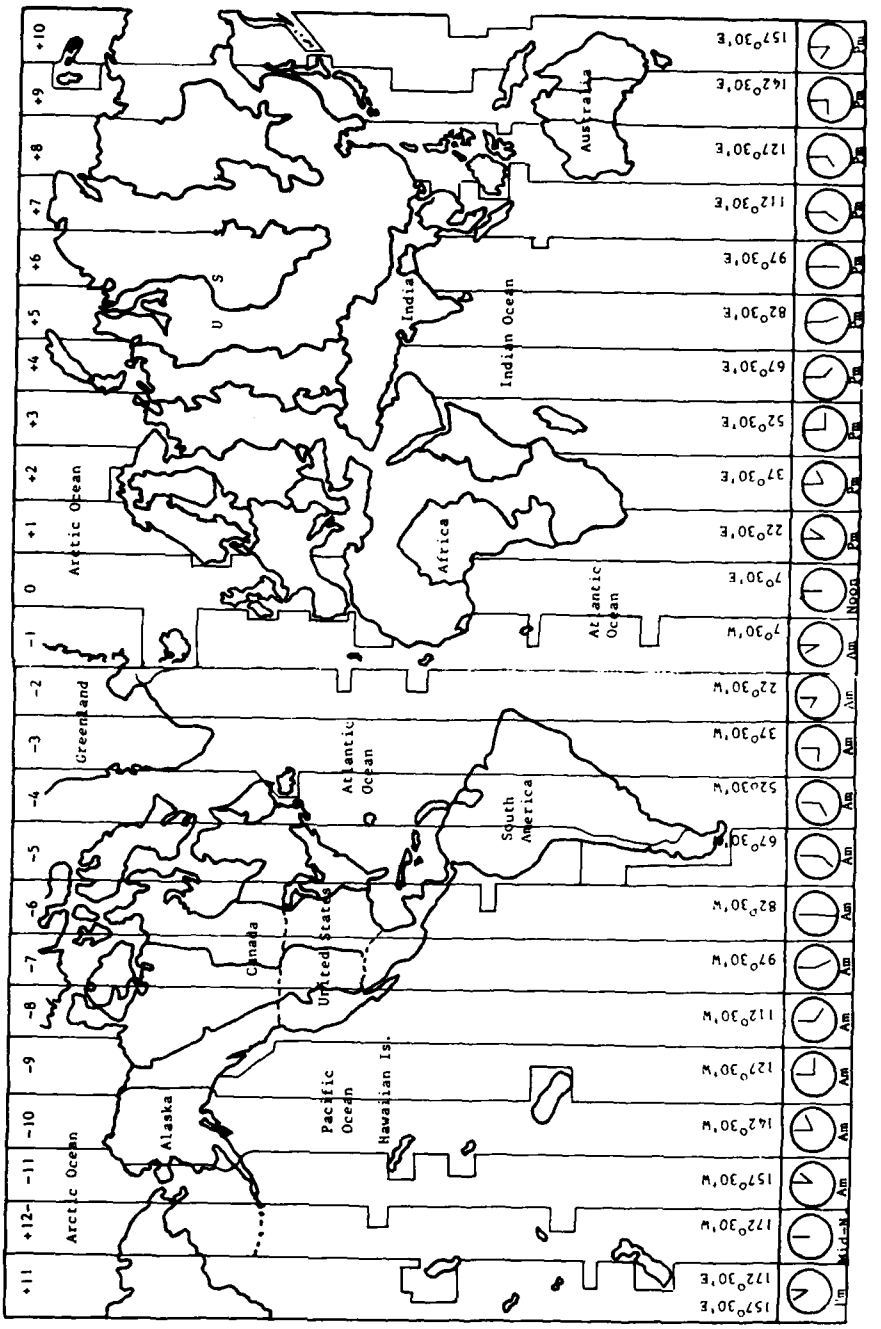
WORLD TRAVELER DATA

This appendix contains selected data to assist in the travel required for ACE/AACE.

Included are:

- World Time Zone Map
- World Monetary Systems List
- Unit Conversion Tables
- World Army Aircraft Deployment Matrix

WorldTime Zones



Monetary Systems

COUNTRY	MONETARY UNIT	COUNTRY	MONETARY UNIT
Afghanistan	Afghani	Laos	New Kip
Albania	Lek	Lebanon	Pound
Algeria	Dinar	Lesotho	Loti
Argentina	New Peso	Liberia	Dollar
Australia	Dollar	Libya	Dinar
Austria	Schilling	Liechtenstein	Franc
Bahamas	Dollar	Luxembourg	Franc
Bahrain	Dinar	Madagascar	Franc
Bangladesh	Taka	Malawi	Kwacha
Barbados	Dollar	Malaysia	Ringgit
Belgium	Franc	Maldives	Rupee
Belize	Dollar	Mali	Franc
Benin	CFA Franc	Malta	Pound
Bermuda	Dollar	Mauritania	Ouguiya
Bolivia	Peso	Mauritius	Rupee
Botswana	Pula	Mexico	Peso
Brazil	Cruzeiro	Monaco	Franc
Bulgaria	Lev	Mongolia	Tugrik
Burma	Kyat	Morocco	Dirham
Burundi	Franc	Mozambique	Metical
Cameroon	CFA Franc	Nepal	Rupee
Canada	Dollar	Netherlands	Guilder
Central African Emp.	CFA Franc	New Zealand	Dollar
Chad	CFA Franc	Nicaragua	Cordoba
Chile	Peso	Niger	CFA Franc
China	Yuan	Nigeria	Naira
Colombia	Peso	Norway	Krone
Congo	CFA Franc	Oman	Rial
Costa Rica	Colon	Pakistan	Rupee
Cuba	Peso	Panama	Balboa
Cyprus	Pound	Paraguay	Guarani
Czechoslovakia	Koruna	Peru	Sol
Denmark	Krone	Philippines	Peso
Dominican Rep.	Peso	Poland	Zloty
Ecuador	Sucre	Portugal	Escudo
Egypt	Pound	Qatar	Riyal
El Salvador	Colon	Rumania	Leu
Equat. Guinea	Ekuele	Rwanda	Franc
Ethiopia	Birr	Saudi Arabia	Riyal
Fiji	Dollar	Senegal	CFA Franc
Finland	Markka	Sierra Leone	Leone
France	Franc	Singapore	Dollar
Gabon	CFA Franc	Somalia	Shilling
Gambia	Dalasi	South Africa	Rand
Germany, East	D-Mark	Spain	Peseta
Germany, West	D-Mark	Sri Lanka	Rupee
Ghana	Cedi	Sudan	Pound
Greece	Drachma	Swaziland	Lilangeni
Grenada	Dollar	Sweden	Krona
Guatemala	Quetzal	Switzerland	Franc
Guinea	Syli	Syria	Pound
Guinea-Bissau	Escudo	Taiwan	Dollar
Guyana	Dollar	Tanzania	Shilling
Haiti	Gourde	Thailand	Baht
Honduras	Lempira	Togo	CFA Franc
Hong Kong	Dollar	Trinidad and Tobago	Dollar
Hungary	Forint	Tunisia	Diner
Iceland	Krona	Turkey	Lira
India	Rupee	Uganda	Shilling
Indonesia	Rupiah	United Arab Emirates	Dirham
Iran	Rial	United Kingdom	Pound
Iraq	Dinar	United States	Dollar
Ireland	Pound	Upper Volta	CFA France
Israel	Shekel	Uruguay	Peso
Italy	Lira	USSR	Ruble
Ivory Coast	CFA Franc	Venezuela	Bolivar
Jamaica	Dollar	Vietnam	Dong
Japan	Yen	Western Samoa	Tala
Jordan	Dinar	Yemen	Dinar
Kampuchea	Riel	Yemen, Dem.	Dinar
Kenya	Shilling	Yugoslavia	Dinar
Korea, North	Won	Zaire	Zaire
Korea, South	Won	Zambia	Kwacha
Kuwait	Dinar	Zimbabwe	Dollar

Standard Unit Convearsion Tables

U.S. English Units to SI Units

TO CONVERT FROM	TO	MULTIPLY BY
(Acceleration)		
foot/second^2 (ft/s^2)	meter/second^2 (m/s^2)	3.048×10^{-1} *
inch/second^2 (in/s^2)	meter/second^2 (m/s^2)	2.54×10^{-2} *
(Area)		
foot^2 (ft^2)	meter^2 (m^2)	9.2903×10^{-2}
inch^2 (in^2)	meter^2 (m^2)	6.4516×10^{-4} *
yard^2 (yd^2)	meter^2 (m^2)	8.3613×10^{-1}
(Density)		
pound mass/inch^3 (lbm/in^3)	kilogram/meter^3 (kg/m^3)	2.7680×10^{4}
pound mass/foot^3 (lbm/ft^3)	kilogram/meter^3 (kg/m^3)	1.6018×10
(Energy, Work)		
British thermal unit (Btu)	joule (J)	1.0544×10^{3}
foot-pound force (ft · lbf)	joule (J)	1.3558
kilowatt-hour (kw · h)	joule (J)	3.60×10^{6} *
(Force)		
kip (1000 lbf)	newton (N)	4.4482×10^{3}
pound force (lbf)	newton (N)	4.4482
ounce force	newton (N)	2.7801×10^{-1}
(Length)		
foot (ft)	meter (m)	3.048×10^{-1} *
inch (in)	meter (m)	2.54×10^{-2} *
mile (mi), (U S statute)	meter (m)	1.6093×10^{3}
mile (mi), (international nautical)	meter (m)	1.852×10^{3} *
yard (yd)	meter (m)	9.144×10^{-1} *
(Mass)		
pound mass (lbm)	kilogram (kg)	4.5359×10^{-1}
slug (lbf · s^2/ft)	kilogram (kg)	1.4594×10
ton (2000 lbm)	kilogram (kg)	9.0718×10^{2}
(Power)		
foot-pound/minute (ft · lbf/min)	watt (W)	2.2597×10^{-2}
horsepower (550 ft · lbf/s)	watt (W)	7.4570×10^{2}
(Pressure, stress)		
atmosphere (std) (14.7 lbf/in^2)	newton/meter^2 (N/m^2 or Pa)	1.0133×10^{5}
pound/foot^2 (lbf/ft^2)	newton/meter^2 (N/m^2 or Pa)	4.7880×10
pound/inch^2 (lbf/in^2 or psi)	newton/meter^2 (N/m^2 or Pa)	6.8948×10^{3}
(Velocity)		
foot/minute (ft/min)	meter/second (m/s)	5.08×10^{-3} *
foot/second (ft/s)	meter/second (m/s)	3.048×10^{-1} *
knot (nautical mi/h)	meter/second (m/s)	5.1444×10^{-1}
mile/hour (mi/h)	meter/second (m/s)	4.4704×10^{-1} *
mile/hour (mi/h)	kilometer/hour (km/h)	1.6093
mile/second (mi/s)	kilometer/second (km/s)	1.6093
(Viscosity)		
foot^2/second (ft^2/s)	meter^2/second (m^2/s)	9.2903×10^{-2}
pound-mass/foot-second (lb_m/ft · s)	pascal-second (Pa · s)	1.4882
pound-force-second/foot^2 (lb_f · s/ft^2)	pascal-second (Pa · s)	4.788×10

* Exact value

UNITS OF TEMPERATURE

TO CONVERT FROM	TO	MULTIPLY BY
(Fahrenheit)	$^{o}F = (9/5)\ ^{o}C + 32$	
(Celcius)	$^{o}C = (5/9)\ (^{o}F - 32)$	
(Kelvin)	$^{o}K = {}^{o}C + 273.16$	
(Rankine)	$^{o}R = {}^{o}F + 459.69$	

UNITS OF TORQUE

lb. in.	gram cm.	1152.128
lb. ft.	gram cm.	13.826
lb. ft.	kp meter	0.1383
oz. in.	gram cm.	72.008
oz. in.	lb. ft.	0.005208

FRACTION AND DECIMAL EQUIVALENTS

1/64 — .015625	17/64 — .265625	33/64 — .515625	49/64 — .765625
1/32 — .03125	9/32 — .28125	17/32 — .53125	25/32 — .78125
3/64 — .046875	19/64 — .296875	35/64 — .546875	51/64 — .796875
1/16 — .0625	5/16 — .3125	9/16 — .5625	13/16 — .8125
5/64 — .078125	21/64 — .328125	37/64 — .578125	53/64 — .828125
3/32 — .09375	11/32 — .34375	19/32 — .59375	27/32 — .84375
7/64 — .109375	23/64 — .359375	39/64 — .609375	55/64 — .859375
1/8 — .125	3/8 — .375	5/8 — .625	7/8 — .875
9/64 — .140625	25/64 — .390625	41/64 — .640625	57/64 — .890625
5/32 — .15625	13/32 — .40625	21/32 — .65625	29/32 — .90625
11/64 — .171875	27/64 — .421875	43/64 — .671875	59/64 — .921875
3/16 — .1875	7/16 — .4375	11/16 — .6875	15/16 — .9375
13/64 — .203125	29/64 — .453125	45/64 — .703125	61/64 — .953125
7/32 — .21875	15/32 — .46875	23/32 — .71875	31/32 — .96875
15/64 — .234375	31/64 — .484375	47/64 — .734375	63/64 — .984375
1/4 — .25	1/2 — .5	3/4 — .75	1 — 1.

SI Units and Symbols

BASE UNITS

QUANTITY	UNIT	SI SYMBOL	FORMULA
length	meter	m	...
mass	kilogram	kg	...
time	second	s	...
electric current	ampere	A	...
thermodynamic temperature	kelvin	K	...
amount of substance	mole	mol	...
luminous intensity	candela	cd	...

SUPPLEMENTARY UNITS:

plane angle	radian	rad	...
solid angle	steradian	sr	...

DERIVED UNITS:

acceleration	meter per second squared	...	m/s^2
angular acceleration	radian per second squared	...	rad/s^2
angular velocity	radian per second	...	rad/s
area	square meter	...	m^2
density	kilogram per cubic meter	...	kg/m^3
electric potential difference	volt	V	W/A
electric resistance	ohm	Ω	V/A
energy	joule	J	N · m
entropy	joule per kelvin	...	J/K
force	newton	N	$kg \cdot m/s^2$
frequency	hertz	Hz	1/s
magnetomotive force	ampere	A	...
power	watt	W	J/s
pressure	pascal	Pa	N/m^2
quantity of electricity	coulomb	C	A · s
quantity of heat	joule	J	N · m
radiant intensity	watt per steradian	...	W/sr
specific heat	joule per kilogram-kelvin	...	J/kg · K
stress	pascal	Pa	N/m^2
thermal conductivity	watt per meter-kelvin	...	W/m · K
velocity	meter per second	...	m/s
viscosity, dynamic	pascal-second	...	Pa · s
viscosity, kinematic	square meter per second	...	m^2/s
volume	cubic meter	...	m^3
work	joule	J	N · m

SI PREFIXES

MULTIPLICATION FACTORS	PREFIX	SI SYMBOL
$1\ 000\ 000\ 000\ 000 = 10^{12}$	tera	T
$1\ 000\ 000\ 000 = 10^{9}$	giga	G
$1\ 000\ 000 = 10^{6}$	mega	M
$1\ 000 = 10^{3}$	kilo	k
$100 = 10^{2}$	hecto	h
$10 = 10^{1}$	deka	da
$0.1 = 10^{-1}$	deci	d
$0.01 = 10^{-2}$	centi	c
$0.001 = 10^{-3}$	milli	m
$0.000\ 001 = 10^{-6}$	micro	μ
$0.000\ 000\ 001 = 10^{-9}$	nano	n
$0.000\ 000\ 000\ 001 = 10^{-12}$	pico	p
$0.000\ 000\ 000\ 000\ 001 = 10^{-15}$	femto	f
$0.000\ 000\ 000\ 000\ 000\ 001 = 10^{-18}$	atto	a

Army Aircraft Deployment

Location / Aircraft	A/TH-1G	AH-1S	AH-64A	CH-47A	CH-47B	CH-47C	CH-47D	CH-54A	CH-54B	OH-58A	OH-58B	OH-58C	OH-6A	OV-6A	OV-1C	OV-1D	RV-1D	U-21A	U-21F	U-21G	RU-21A	RU-21B	RU-21C	RU-21H	UB-1B	UH-1C	UH-1H	UH-1N	UH-1V	UH-60A	Total
UNITED STATES																															
ALABAMA																															
Ft. Rucker		66					15					73				6		7									333		8	17	525
Montgomery													6														19				25
St. Clair Co. Airport												3															7				10
Anniston Calhoun Co.												3						3													6
Birmingham Muni Airport									10				8														13				31
Redstone AAF	4																							2			6	1			13
Bates Field													2														12				14
ALASKA																															
Alaska		9		16				4		26																	79		6		140
ARIZONA																															
Papago AAF		8										12															26	13			59
Libby AAF												4				11		1									10				26
Laguan AAF		1																1									8				10
ARKANSAS																															
Camp Robinson AAF											13																27		6		46
Adams Field																											7				7
CALIFORNIA																															
Los Alamitos AFRC							3					31						1									59	9			90
Fritzsche AAF		45										55						2									70				172
Edwards AFB		1					2					1			3			1									8				14
Fresno Airport												3															2				5
Fresno Airport																1															1
Hamilton AFB																		1									7		5		13
Stockton Metro Airport				15								7															4				26
Mather AFB												2															13	14			29
Amedde AAF																											3				3
Dagget Airport																		1									8		6		15
COLORADO																															
Buckley AAF		26				10						37						1									36				110
Buckley ANGB																		1													1
Buckley ANGB	1	7											18														1	9			40

Army Aircraft Deployment (Cont'd)

Location / Aircraft	A/TH-1G	AH-1S	AH-64A	CH-47A	CH-47B	CH-47C	CH-47D	CH-54A	CH-54B	OH-58A	OH-58B	OH-58C	OH-6A	OV-6A	OV-1C	OV-1D	RV-1D	U-21A	U-21F	U-21G	RU-21A	RU-21B	RU-21C	RU-21H	UH-1B	UH-1C	UH-1H	UH-1M	UH-1V	UH-60A	Total
CONNECTICUT																															
Groton/New London Airport																											2				2
Bradley Intl. Airport									10																		24				34
DELAWARE																															
Greater Wilmington Airport														3													26				29
FLORIDA																															
Craig Field Municipal Airport	2	13											23						1								29	6			74
Orlando Jetpt																			11								6				17
McDill AFB																					2						4				6
Opalocka Airport																											1		5		6
GEORGIA																															
Bush Field																			1								2				3
Winder-Barrow																14															14
Dobbins AFB													3			14											4				21
Charlie Brown Airport																			4								4				8
Hunter AAF & Ft. Stewart		30		16				10					40			12			10								31			16	165
Lawson AAF Ft. Benning													8						1								15		26	6	56
HAWAII																															
Hawaii		51					16			60									1								70		6		237
IDAHO																															
Boise Muni Airport										14									1								18	12			45
ILLINOIS																															
Decatur Airport										10																	14				24
Midway Airport										8																	16				24
Glenview NAS										4																	34				38
Glenview NAS																			1								3				4
Scott AFB																											26				26
Parks Bi-State Airport																											6				8
INDIANA																															
Shelby Co. Airport										32																	17				49
Indianapolis Intl. Airport																			1								2				3
IOWA																															
Davenport Muni Airport																											21				21
Waterloo Muni Airport										10																	7	8			25

Army Aircraft Deployment (Cont'd)

Location	Aircraft	A/TH-1G	AH-1S	AH-64A	CH-47A	CH-47B	CH-47C	CH-47D	CH-54A	CH-54B	OH-58A	OH-58B	OH-58C	OH-6A	OV-6A	OV-1C	OV-1D	RV-1D	U-21A	U-21F	U-21G	RU-21A	RU-21B	RU-21C	RU-21H	UH-1B	UH-1C	UH-1H	UH-1M	UH-1V	UH-60A	Total
IOWA CONT'D																																
Boone Airport											4																	7				25
Des Moines Muni Airport											4																	5				9
Marshall AAF			30								37								1									50		6		124
Industrial Airport					13																							1				14
Forbes AFB									10		6																	9				25
KENTUCKY																																
Capital City Airport											6																	31			2	39
Goodman AAF											6								3									13				22
Campbell AAF			90					54			30		66	26					1									58			131	456
Bowman Field																												7				7
LOUISIANA																																
Lakefront Airport											12																	19				31
Acadiana Regional Airport																												11				11
Polk AAF			9								20								2									23		6		60
MAINE																																
Bangor Intl. Airport											3																	29				32
MARYLAND																																
Phillips AAF																			1									5				6
Weide AAF			7																1									11	10		22	51
Tipton AAF					6	4					15																	14				39
Hagerstown Muni Airport											4																	6				10
MASSACHUSETTS																																
Moore AAF											13								2									19				34
Otis ANGB																												12			24	36
Westover AFB																												8			5	13
MICHIGAN																																
Abrams Muni Airport											18								1									34	9			62
Selfridge ANGB																												5				5
Oakland Pontiac Airport																												1				1
MINNESOTA																																
Downtown Airport											24								1									12				37
Downtown Airport											11																	12				23

Army Aircraft Deployment (Cont'd)

Location	Aircraft	A/TH-1G	AH-1S	AH-64A	CH-47A	CH-47B	CH-47C	CH-47D	CH-54A	CH-54B	OH-58A	OH-58B	OH-58C	OH-6A	OV-6A	OV-1C	OV-1D	RV-1D	U-21A	U-21F	U-21G	RU-21A	RU-21B	RU-21C	RU-21H	UH-1B	UH-1C	UH-1H	UH-1M	UH-1V	UH-60A	Total
MISSISSIPPI																																
Key Field										10																		1				11
Hawkins Field															17													11				28
Vicksburg Muni Airport												3																2				5
Gulfport Muni Airport														1														3				4
CD Lemmons Muni Airport														13														14				27
MISSOURI																																
Forney AAF											1								2									3				6
Springfield Muni Airport																																---
Springfield Muni Airport																												6				6
Memorial Airport											3																	16				19
Whiteman AFB	1	5									12																	3	11			32
MONTANA																																
Helena Muni Airport											14																	19	9			42
NEBRASKA																																
Lincoln Airport											7																	27				34
NEVADA																																
Reno-Stead Airport									5																			7				12
NEW HAMPSHIRE																																
Concord Muni Airport											6																	7		1		14
NEW JERSEY																																
Morristown Muni Airport																									1			2	1			6
Picatinny Arsenal Heliport															10													7	9			26
Mercer Co. Airport															22													11				33
McGuire AFB																				2								3				5
Lakehurst NAS		1									1		1	2				1	1						1			12			1	21
Lakehurst NAS																												1				1
NEW MEXICO																																
Santa Fe Muni Airport											2																	8				10
Holloman AFB											10								2									7				19
NEW YORK																																
Niagara Falls Muni Airport															3													27				30
Hancock Field											5																	6				11
Albany Co. Airport														12														4				16
Stewart Airport											5								1									11				17

Army Aircraft Deployment (Cont'd)

Location / Aircraft	A/TH-1G	AH-1S	AH-64A	CH-47A	CH-47B	CH-47C	CH-47D	CH-54A	CH-54B	OH-58A	OH-58B	OH-58C	OH-6A	OV-4A	OV-1C	OV-1D	RV-1D	U-21A	U-21F	U-21G	UH-1A	UH-1B	UH-1C	UH-1H	UH-1M	UH-1V	UH-60A	Total
NEW YORK CONT'D																												
Long Island MacArthur Airport Hgr A													34											16				50
Wheeler-Sack AAF																								2				2
Seneca AAF																								2				2
NORTH CAROLINA																												
Bowen Co. Airport										11														6	10			25
Raleigh-Durham Airport		4								11														8	9			25
Simmons AAF		48				16				41		42						7						62			64	286
NORTH DAKOTA																												
Bismarck Muni Airport													5											11				16
OHIO																												
Lorain Co. Regional Airport																								5		1		6
Akron-Canton Airport										18													2	20	9		2	51
Don Scott Field		7								23														13	13			56
Columbus Muni Airport										3														5				8
OKLAHOMA																												
Gen Howell Muldrow Airport										10														28				38
Max Westheimer Airport										4													1	6				11
Henry Post AAF					16					20														17		6		59
Tulsa Intl Airport													24															24
OREGON																												
McNary Field										10						11								8				29
PENNSYLVANIA																												
Washington County Airport													13											9	9			31
Muir AAF				4				10					29					2						38				83
Chambersburg Muni Airport																								1				1
Willow Grove NAS										6														9				15
RHODE ISLAND																												
Quonset Airport													11											7	9			27
SOUTH CAROLINA																												
McEntire ANGB										17														15	9			41
Columbia Metro Airport																								3	4	6		13
SOUTH DAKOTA																												
Rapid City Regional Airport													6											11				17

Army Aircraft Deployment (Cont'd)

Location	Aircraft: A/TH-1G	AH-1S	AH-64A	CH-47A	CH-47B	CH-47C	CH-47D	CH-54A	CH-54B	OH-58A	OH-58B	OH-58C	OH-6A	OV-6A	OV-1C	OV-1D	RV-1D	U-21A	U-21F	U-21G	RU-21A	RU-21B	RU-21C	RU-21H	UH-1B	UH-1C	UH-1H	UH-1N	UH-1V	UH-60A	Total
TENNESSEE																															
Smyrna Airport													2A														18	11			58
McGee-Tyson ANGB		5											6														7	9			22
TEXAS																															
Dallas NAS				13						13																	31				57
Brooks Airport																											1		6		7
Easterwood Fld													1														2				3
Hood AAF & Robert Gray AAF		118				16				71		65				10		5									123		5		413
R. E. Mueller Muni Airport	3									18																	11	6			38
Ellington AFB				5						3																	2	2			12
Martindale AAF										16																	10				26
Randolph AFB																											3				3
San Antonio Int. Airport																											6				6
Kelly Heliport																											3		5		8
Biggs AAF										10		10						1									27				57
New Braunfels Airport																															--
NAS Corpus Christi																				1							1				2
UTAH																															
Salt Lake City Intl Airport																		1									7				8
Airport #2	1	7											16														12	9			45
Michael AAF																		1									3				4
VERMONT																															
Burlington Intl Airport													11														8				19
VIRGINIA																															
Davidson AAF		2									6		1					6	5					3			44			3	70
Byrd Intl Airport													13														36				49
Petersburg Muni Airport																											3				3
Langley AFB																		3													3
Felker AAF		4					7						6														20			4	41
Felker AAF												2															4				6
WASHINGTON																															
Snohomish Co. Paine Field				22															1								4				27
Grey AAF		50			16					30		44						3									25		7	31	206
Grey AAF		5								12																	5	12			34

Army Aircraft Deployment (Cont'd)

Location / Aircraft	A/TH-1G	AH-1S	AH-64A	CH-47A	CH-47B	CH-47C	CH-47D	CH-54A	CH-54B	OH-58A	OH-58B	OH-58C	OH-6A	OV-6A	OV-1C	OV-1D	RV-1D	U-21A	U-21F	U-21G	RU-21A	RU-21B	RU-21C	RU-21H	UH-1B	UH-1C	UH-1H	UH-1M	UH-1V	UH-60A	Total
WASHINGTON CONT'D																															
Spokane Intl Airport																											6				6
WEST VIRGINIA																															
Wood City Arp										5																	16				21
WISCONSIN																															
Truax Field										6																	4	16			26
West Bend Airport										9																	6				15
Waukesha Airport																															—
WYOMING																															
Cheyenne Muni Airport												6															7				13
JAPAN																															
Camp Zama AAF																											8				8
KOREA																															
Seoul		29					32					53				12													63	100	289
KWAJALEIN																															
Kwajalein Island																											3				3
PANAMA CANAL ZONE																															
Albrook AFS							8					8						1									29		4		50
PUERTO RICO																															
Isla Grande Airport													8					1									5	3			17
Christiansted St. Croix																											2				2
Ft. Buchanan																											1				1
EUROPE																															
Casteau Belgium																											2				2
Heidleberg																											7				7
Sandofen Coleman BRS											15							5									14				34
Sandhofen Coleman BRA										3																	11				14
Sandhofen Coleman BRS										4											3						5				12
Sandhofen Coleman BRA						19																					1				20
Pirmasens																											10				10
Landstuhl																													6		6
Ramstein																								7							7
Berlin																		1									5				6
Bad Kreuznach										23																	13				36
Fischen		21								13																	3				37

Army Aircraft Deployment (Cont'd)

Location	Aircraft	A/TH-1G	AH-1S	AH-64A	CH-47A	CH-47B	CH-47C	CH-47D	CH-54A	CH-54B	OH-58A	OH-58B	OH-58C	OH-6A	OV-6A	OV-1C	OV-1D	RV-1D	U-21A	U-21F	U-21G	RU-21A	RU-21B	RU-21C	RU-21H	UH-1B	UH-1C	UH-1H	UH-1M	UH-1V	UH-60A	Total
EUROPE CONT'D																																
Finthen			22								12																	3				37
Finthen											4																	3				7
Finthen																															15	15
Finthen							20																					1			6	27
Baumholder											4																					4
Hanau			1										1															6				8
Hanau											7																	1				8
Hanau																												2				2
Hanau											24																	17				41
Hanau			20								11																	3				34
Hanau			21								12																	2				35
Hanau											3																	2				5
Hanau																															15	15
Wiesbaden											6																					6
Wellingen			1								5		1															12				19
Wellingen																															6	6
Wellingen																															1	1
Schweinfurt											12																	3			6	21
Darmstadt																															6	6
Fulda											6		10															13				29
Fulda			21										12															3				36
Bonnmoos											20								1									19				40
Giebelstadt											36																	24			15	75
Wertheim																												17			15	32
Katterbach											16																	20				36
Katterbach			21								12																	3			1	37
Katterbach			21								16																	3				40
Katterbach											5																	5				10
Katterbach																												5			8	13
Katterbach																												2				2
Feucht			21										12															13				37
Feucht											6		10															13				29
Grafenwoehr																													4			4
Grafenwoehr																				1								3				4

Army Aircraft Deployment (Cont'd)

Location	Aircraft	A/TH-1G	AH-1S	AH-64A	CH-47A	CH-47B	CH-47C	CH-47D	CH-54A	CH-54B	OH-58A	OH-58B	OH-58C	OH-6A	OV-6A	OV-1C	OV-1D	RV-1D	U-21A	U-21F	U-21G	RU-21A	RU-21B	RU-21C	RU-21H	UH-1B	UH-1C	UH-1H	UH-1M	UH-1V	UH-60A	Total
EUROPE CONT'D																																
Bremmen											4																	3				7
Bremmen																												6				6
Bad Tolz																												2				2
Echterdingen											20																					20
Echterdingen																			1									4				5
Echterdingen																26																26
Schwaebisch Hall								20																					2			21
Schwaebisch Hall																			1									3				4
Goppingen											4																	2				6
Schwaebisch, Gmuend																												15				15
Augsburg																														7		7
Augsburg																												3				3